
US ARMY ENGINEER CENTER AND SCHOOL

**ESTABLISH AND MAINTAIN
A TECHNICAL
REFERENCE LIBRARY**



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**THE ARMY INSTITUTE FOR PROFESSIONAL DEVELOPMENT
ARMY CORRESPONDENCE COURSE PROGRAM**

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**READINESS /
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**ESTABLISH AND MAINTAIN
A TECHNICAL
REFERENCE LIBRARY**

Subcourse EN5261

EDITION A

United States Army Engineer Center and School
Fort Leonard Wood, Missouri 65473

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SUBCOURSE OVERVIEW

This subcourse is part of the military occupational specialty (MOS) 62B Construction Equipment Repairer Course. It is presented in two lessons, each corresponding to a specific learning objective. Lesson 1 is designed to provide the knowledge and skills necessary for establishing an account and acquiring materials through the Standard Army Publications System (STARPUBS). Lesson 2 is designed to provide the knowledge and skills necessary for maintaining a technical reference library.

There are no prerequisites for this subcourse.

This subcourse reflects the doctrine that was current at the time when this subcourse was prepared. In you work, always refer to the latest official publications.

Unless otherwise stated, the masculine gender of singular pronouns is used to refer to both men and women

TERMINAL LEARNING OBJECTIVE:

ACTION: You will learn the correct procedures used for establishing a publications account, acquiring publications and forms through STARPUBS, and maintaining a technical reference library.

CONDITION: You will be given the material in this subcourse.

STANDARD: To demonstrate competency of this task, you must achieve a minimum of 70 percent on the subcourse examination.

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
Subcourse Overview	i
Grading and Certification Instructions.....	iii
Lesson 1: Establishing an Account and Acquiring Materials Through the Army Publications System	1-1
Part A: The Standard Army Publications System	1-2
Part B: Publications-Account Management	1-9
Practice Exercise	1-13
Answer Key and Feedback	1-16
Lesson 2: Maintaining a Technical Reference Library	2-1
Part A: Posting Changes	2-1
Part B: Filing Publications	2-9
Practice Exercise	2-12
Answer Key and Feedback	2-39
Examination.....	E-1
Appendix A: List of Common Acronyms	A-1
Appendix B: Recommended Reading List.....	B-1
Student Inquiry Sheets	

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LESSON 1

ESTABLISHING AN ACCOUNT AND ACQUIRING MATERIALS THROUGH THE ARMY PUBLICATIONS SYSTEM

OVERVIEW

LESSON DESCRIPTION:

This lesson provides the information and procedures for establishing an account with the United States Army Publications and Printing Command (USAPPC). It also discusses how to use the account to request and receive publications and blank forms through the initial distribution (ID) system and the resupply ordering system.

TERMINAL LEARNING OBJECTIVE:

ACTION: You will establish a publications account and order publications at a unit level.

CONDITION: You will be given the material contained in this lesson.

STANDARD: You will correctly answer the practice exercise questions at the end of this lesson.

REFERENCES: The material contained in this lesson was derived from the following publications: ARs 25-30 and 25-400-2, DA Pams 25-30 and 25-33, and Technical Manual (TM) 39-0-1A.

INTRODUCTION

As a construction-equipment repairer, you must ensure that current reference material is available for use. To perform proper preventive and corrective maintenance, you must have the appropriate references. Good publications-account management is the means of meeting these requirements. Establishing a USAPPC account and providing appropriate manuals, regulations, forms, and other reference materials for your unit will better enable you to accomplish your mission.

PART A - THE STANDARD ARMY PUBLICATIONS SYSTEM

STARPUBS and its subsystems supply DA publications and blank forms for the entire Army. They also print, store, distribute, and dispose of DA publications and blank forms. They generate management data that assists the USAPPC in the execution of the Army Integrated Publishing and Printing Program (AIPPP).

1-1. Identifying Responsibilities and Functions. The USAPPC in Alexandria, Virginia, manages STARPUBS and carries out the following management roles:

- Determines and recommends printing, publishing, and distribution policies.
- Determines the distribution requirement for publications and blank forms.
- Directs the operation of the United States Army Publications Distribution Center (USAPDC)

a. Publications Distribution Centers (PDCs) and Stockrooms. The USAPDC stocks and distributes classified and unclassified departmental administrative, training, doctrinal, technical, and supply publications. The USAPDC also stocks and distributes all blank forms, including sensitive and accountable blank forms.

Continental United States (CONUS) installation publications stockrooms and outside continental United States (OCONUS) PDCs serve as extensions of the USAPDC. They provide departmental blank-forms storage and distribution support to units located at or supported by the installation and units supported by the OCONUS PDC.

Installation publications stockrooms and OCONUS PDCs redistribute excess or misrouted departmental publications but will not order or maintain stock of these items. They also stock and issue command, agency, installation, and local publications and blank forms as appropriate.

b. Functional Managers. Deputy Chiefs of Staff for Information Management (DCSIMs), directors of information management (DOIMs), and information management officers (IMOs) manage command and installation publications. They are responsible for enforcing departmental policies, regulations, and instructions governing publications and printing. They also appoint functional managers to exercise publications- and forms-management responsibilities, such as a publications control officer (PCO), a publications stockroom manager (PSM), and a forms management officer (FMO).

The PCO performs a staff role at the installation or activity level. He advises units on STARPUBS and helps them fill their publications needs. Among other duties, the PCO reviews and approves requests for publications accounts and ID of publications.

Like the PCO, the PSM at a CONUS installation helps the units fill their publications needs. Besides managing the publications stockrooms, the PSM assists the PCO in advising units on managing an account and ordering publications and blank forms.

The publications officer (PO), appointed by the unit commander, manages the units publications and blank forms. The PO helps the commander determine the unit's publications needs, orders publications and forms, and manages the unit's publications account. The PO also acts as the unit's liaison with the local PCO, PSM, and PDC. A publications clerk is a unit member who is responsible for the day-to-day maintenance of the unit's publications account.

c. Customer Support Subsystem (CSS). The CSS is one of three major components of the STARPUBS Defense Data Network Interface System (SDIS). SDIS was developed for the USAPPC to give STARPUBS customers the capability to electronically prepare their requirements for DA publications and blank forms and to submit them via the Defense Data Network (DDN). A user's manual provides detailed procedures to guide STARPUBS customers in the use of the CSS.

1-2. Establishing an Account. A valid publications account allows your unit to order publications and blank forms from the USAPPC. Your unit receives an account number upon request. This number is your unit's identification at the USAPPC. You must state your unit's account number anytime you order publications, make changes in your publication request, or contact the USAPPC for any reason.

DA Pam 25-33 identifies who is authorized to have a publications account. Some of those authorized are--

- Active Army table of organization and equipment (TOE) units that are battalion-size and have personnel and administration center (PAC) or are detachment-size or larger and not under a PAC.
- Army table of distribution and allowances (TDA) activities. They may have accounts established at the commander, director, or chief level.
- Army schools. They may establish separate accounts for the reference library, the staff, and the student texts.
- United States Army Reserve (USAR) units that are company-size or larger and staff sections at division level.
- Army National Guard (ARNG) units that are company-size or larger, designated by the State Adjutant General (AG). Account requests must be approved by the State AG and the National Guard Bureau (NGB).

Other authorized agencies should submit requests according to DA Pam 25-33.

a. Requesting an Account. To request a publications account for your unit, prepare a DA Form 12-R and submit it to the USAPPC. The information you put on this form must be as accurate as possible, since it describes your unit and the level of publications service needed. Instructions for completing DA Form 12-R are in DA Pam 25-33. The DA Form 12-R is the only form needed to request an account (Figure 1-1).

If your unit needs to establish ID, you must submit DA Form 12-99-R. The paper version is found in DA Pam 25-33 along with instructions for preparation. It is also available through the SDIS and the World Wide Web (WWW).

The procedures for requesting a publications account are as follows:

- Complete a DA Form 12-R.
- Complete and attach a DA Form 12-99-R.
- Have your unit PO review and sign the DA Form 12-R.
- Have your unit commander sign the DA Form 12-R and any other DA Form 12-R series forms that require signature. Make copies of all the completed forms and keep them in your unit publications file. File them under file number 25-30ii according to AR 25-400-2.
- Send all the completed forms to your PCO for review and approval. The PCO will forward the forms to Commander, USAPDC, Attention: New Account Processing 1655 Woodson Road, St Louis, Missouri 63114-6181. Follow local procedures on the number of copies to send to your PCO and add one additional copy to be returned to you upon completion. When your PCO returns a completed set to you, file it in the unit's publications file and discard the copies filed earlier. The USAPDC will provide your unit with an account number, the SDIS software and user's manual, and the information necessary for the maintenance of your unit's publications account.

If your unit needs current editions of publications, you must submit DA Form 4569, which is no longer accepted in the paper version. DA Form 4569 is totally electronic, meaning that the familiar structure and data files of the paper form are duplicated in the electronic ordering system. The best source of information explaining the data fields is included with your software or ordering system. An example of the electronic DA Form 4569 found on the WWW is shown in Figure 1-2, page 1-6. If you do not have the means to order publications electronically, you must contact the customer service personnel at USAPDC for instructions.

b. Closing an Account. Use a DA Form 12-R if your unit must close its account - such as for deactivation. Enter your account number and check "c. Close" in Block 3. Submit this form to USAPDC at least 90 days before closing the account.

REQUEST FOR ESTABLISHMENT OF A PUBLICATIONS ACCOUNT		
For use of this form, see DA PAM 25-33; the proponent agency is ODISC4		
1. ACCOUNT NUMBER B0122	2. DATE 12 Nov 1996	3. TYPE OF SUBMISSION a. <input checked="" type="checkbox"/> INITIAL b. <input type="checkbox"/> CHANGE c. <input type="checkbox"/> CLOSE
4. FROM (Include nine-digit ZIP Code) Commander, XYZ Medical Detachment Bldg 341, Room 14B Ft Highland, VA 22315	5. THRU (Include nine-digit ZIP Code) Publications Control Office Bldg 9987, Room 331 5641 Second Street Ft Highland, VA 22315	6. TO Commander USAPDC 1655 Woodson Road St Louis, MO 63114
SECTION I - GENERAL		
7a. REQUEST AN ACCOUNT BE ESTABLISHED FOR THE FOLLOWING SERVICE: <input checked="" type="checkbox"/> PUBLICATIONS <input type="checkbox"/> BLANK FORMS <input type="checkbox"/> TEST MATERIAL (see para 2-5, DA PAM 25-33)		
7b. JUSTIFICATION FOR BLANK FORMS (Use a separate sheet of paper if more space is needed.)		
8. UNIT DESCRIPTION DATA (FAILURE TO COMPLETE THIS BLOCK WILL RESULT IN YOUR REQUEST BEING RETURNED.)		
a. Component (Contractors must complete Block 8a and/or 8f.) <input checked="" type="checkbox"/> Active Army <input type="checkbox"/> Army Reserve <input type="checkbox"/> National Guard <input type="checkbox"/> Air Force <input type="checkbox"/> Marine Corps <input type="checkbox"/> Navy <input type="checkbox"/> DOD Activity <input type="checkbox"/> Contractor <input type="checkbox"/> Other		
b. TOE Number or TDA Number (Army Only)		e. Commercial and Government Entity (CAGE) Code (Contractors)
c. Unit Identification Code (UIC) (Army Users) HD VLAA		f. Contract Number (if applicable)
d. Military Assistance Program Address Code (MARS Users)		g. DOD Activity Address Code (Non-Army Users) or Navy UIC
9. PUBLICATIONS OFFICER FOR THIS ORGANIZATION WILL BE:		
a. Typed Name, Grade and Title Rosetta J Doe, Officer	b. Signature	c. Telephone Number (563) 755-5555 675-5555
SECTION II - ACCOUNT CLASSIFICATION LEVEL		
10. REQUEST THE FOLLOWING CLASSIFICATION LEVEL FOR THIS ACCOUNT: <input checked="" type="checkbox"/> UNCLASSIFIED <input type="checkbox"/> CONFIDENTIAL <input type="checkbox"/> SECRET		
11. THIS ORGANIZATION HAS ADEQUATE EQUIPMENT AND PROPERLY CLEARED PERSONNEL TO RECEIVE AND SAFEGUARD MATERIAL ACCORDING TO THE CLASSIFICATION REQUESTED FOR THIS ACCOUNT. IF CLASSIFIED SERVICE IS APPROVED, THE SECURITY OFFICER WILL BE:		
a. Typed Name, Grade and Title	b. Signature	c. Telephone Number (563) 755-5555 675-5555
SECTION III - CHANGE OF ADDRESS		
12a. OLD ADDRESS (Include nine-digit ZIP Code)		b. NEW ADDRESS (Include nine-digit ZIP Code)
Effective Date:		
SECTION IV - AUTHENTICATING OFFICIALS		
13a. Typed Name, Grade and Title of Commander John P Doe, O-5 Director, Training Development	b. Signature	c. Telephone Number (563) 755-5555 675-5555
14a. Typed Name, Grade and Title of PCOPSM Carol Doe Installation Publications Control Officer	b. Signature	c. Telephone Number (563) 755-5551 675-5551

DA FORM 12-R, APR 96 PREVIOUS EDITIONS ARE OBSOLETE

Figure 1-1. DA Form 12-R

DA 4569 Ordering Module

Fill out this form and select "Send Order" to submit the order. When you are finished ordering select "Exit" to return to the ordering menu. If you select "Exit" without selecting "Send Order" first, your order will not be saved. **NOTE: Account Number is made up of 1 alpha/numeric followed by 4 numeric characters.**

Account Number: Zip Code:

Enter in the information below in the format—
[Sub-Account (optional)] [Nomenclature] [Change Number] [Quantity] [Unit of Issue]

1.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
4.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
5.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
6.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
9.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Figure 1-2. Example of the automated DA Form 4569

1-3. Requesting Initial Distribution.

a. The ID system works somewhat like a magazine subscription. Magazine subscribers are automatically sent every new issue published. When new or revised publications and changes to publications are printed, copies are sent to all units that have submitted requirements for them. This automatic, one-time issue is called ID. When your unit opens an account at the PDC, you tell the center what publications your unit needs. Your unit will automatically receive all new and revised editions of those publications and any changes to them. Current publications are not issued through ID. Existing publications are like back issues of magazines. Your unit will receive such publications only when they are changed or revised. To get current editions, you must requisition them through the resupply ordering system.

b. Use DA Form 12-99-R to tell the PDC what publications your unit needs to receive through ID. DA Pam 25-33 contains specific instructions for completing DA Form 12-99-R. Figure 1-3 shows an example of the completed form.

Proponent approval is required for explosive-ordnance and nuclear-weapons publications. You must submit your request on DA Forms 12-29-R and 12-35-R. These forms and preparation instructions are included in TM 39-0-1A.

c. Before you complete DA Form 12-99-R, you must determine what publications your unit needs and the number of copies required. Some guidelines for determining your unit's requirements are-

- Consult your unit's PO and key personnel in the unit.
- Refer to the unit's modification TOE (MTOE) or modification TDA (MTDA).
- Check the property book, the training schedules, and the regulations that cover the unit's operations.
- Check the unit roster of additional duty appointments.

Give each key person in your unit a DA Form 12-99-R and access to DA Pam 250, which is produced in either microfiche or compact disk-read-only memory (CD-ROM) format. DA Pam 25-30, commonly referred to as the publications "Index," lists published materials under the AIPPP. Key personnel should review the forms and DA Pam 25-30 and select the publications and quantities they need to accomplish their functions. If they need current editions of those publications, they must submit a list of the specific publications required, showing the publication numbers and the quantities needed.

When key personnel return the DA Forms 12-99-R, consolidate the requirements on a new set of DA Forms 12-99-R. Make three copies of this new set of forms and put one copy in your publications file. Send the original and two copies to your PCO. After review and approval, the PCO will forward the original to the St Louis PDC for processing. The second copy will be returned to the account holder for their publications-management file. The PCO should retain the third copy. If there are requirements for current editions of any publication already issued through ID, you must submit a DA Form 4569 through the resupply ordering system.

1-4. Requisitioning Through the Resupply Ordering System

a. The resupply ordering system is used for requisitioning current publications. You may submit requisitions for current publications as often as you need. Consolidate the requirements for current publications and use DA Pam 25-30 to verify the accuracy of the publication numbers and dates. Do not use the resupply ordering system to correct omissions in your unit's ID requirements. Use resupply to-

- Replace lost or worn-out publications.
- Requisition publications your unit does not normally receive through ID.

- Requisition additional current editions of publications pending a change of subscription.
- Requisition blank forms.

b. All units that have accounts at the PDC may requisition publications and changes to publications directly from the PDC. Only units that have blank-forms accounts may requisition forms directly from the PDC. (See DA Pam 25-33 for special conditions on requisitioning for the USAR, ARNG, recruiters, and unit test control officers.)

c. The SDIS and the WWW provide automated ways to order publications and blank forms. To get a copy of the SDIS software, installation instruction, and a user's manual send a request to the Commander, USAPPC, Attention: ASQZ-IM, 2461 Eisenhower Avenue, Alexandria, Virginia 22331-0302. You may also find this software on the CD-ROM version of DA Pam 25-30. If your unit does not have DDN access but you have a modem, you can order a personal computer packet from the USAPPC. It will include a communications package and a password.

d. You may order publications through the USAPPC's WWW site by browsing to the site and following the instructions. Electronically submitting DA Form 4569 is the only authorized method for requisitioning publications and blank forms from the USAPDC. If you do not have the capability to send electronic requests, contact the customer service personnel at the USAPDC for further instructions.

PART B - PUBLICATIONS-ACCOUNT MANAGEMENT

1-5. Developing an Internal Distribution Plan.

a. To manage your unit's publications, you need an internal distribution plan. When you receive publications from the PDC, you must sort and distribute them to the sections in your unit that need them. An internal plan helps you track what sections ordered what publications and ensures that all sections get the publications they need.

At a minimum, you should maintain the following data to assist in tracking the internal distribution of publications:

- A USAPPC-provided listing of your ID requirements, annotated with you own internal distribution information showing each subaccount's quantity.
- Copies of ID requirements or changes and resupply orders pending including subaccount orders.
- Records showing publications and blank forms that you have received and the internal distribution that was made.

- Copies of your current DA Form 12-R and 12-99-R.
- Copies of your previously submitted DA Form 12-99-R.
- Copies of your current DA Forms 12-29-R and 12-35-R if applicable.
- Records of ID requirement reviews, test control officer verifications, justifications for blank-forms accounts, and any other information that may be helpful in maintaining your account.

b. Your commanding officer, personnel from higher headquarters, or personnel from either the Inspector General's or the AGs office may inspect your publications file at any time. These inspections are to help you find and correct errors in the way you manage your unit's account.

1-6. Updating DA Form 12R Information. When you open an account, you submit information about your unit on a DA Form 12-R. The PDC keeps this information on file. If you do not keep this information up to date, your unit will have problems getting the publications it needs.

a. To ensure that the account identification data on your DA Form 12-R is current, check it at least twice yearly. Notify the PDC when any of the following information changes:

- Type of service.
- Unit description data.
- PO.
- Classification level.
- Address.

b. The procedures for changing the information on your DA Form 12-R are as follows:

- Prepare a new DA Form 12-R and check “c. Change” in Block 3.
- Have your unit PO and commanding officer review and sign the forms as required.
- Send the new form through your PCO to the PDC.
- Put a copy of the new form in your publications file.

1-7. Changing DA Form 12-Series Requirements.

a. Submit changes to you unit's DA Form 12-series requirements if you need to-

- Change the number of copies your unit receives.
- Cancel a publication (place the word “none” in the quantity-required block).
- Add any new publications to a DA Form 12-series that you have previously submitted.

To change you unit’s requirements, you must submit a DA Form 12-99-R. (A DA Form 12-29-R or 12-35 is required to change requirements for explosive-ordnance and nuclear-weapons publications.) You must submit the same numbered form as your original request. For example, you cannot use a DA Form 12-99-R to change DA Form 12-35-R requirements. You must submit a new DA Form 12-35-R. When preparing these forms, enter the updated information in the blocks you want to change and leave the blocks blank that you do not want to change.

The procedures for submitting changes are as follows:

- Prepare DA Form 12-99-R, 12-29-R or 12-35-R according to DA Pam 25-33.
- Have you PO review the changes.
- Have your unit commander review the changes and sign the forms as required.
- Send the changes to your PDC.

If you have submitted a change more than 45 days before receiving a printout and the new requirements are not shown, resubmit the change. Verify the printout against the DA Form 12-series and the previous printout.

b. To manage a publications account, the USAPPC recommends that you maintain current copies of the following publications and forms:

- AR 25-30.
- DA Pam 25-30.
- DA Pam 25-33.
- DA Form 12-R.

- DA Form 12-99-R.
- DA Form 4569.
- Any other DA Form 12-series utilized by your unit.
- Local standard operating procedures for ordering blank forms and publications.

1-8. Tracing a Requisition. You may request a tracer action if you believe that a requisition is lost. Thirty days after sending your requisition, contact the USAPDC and give your unit's account number and as much information about the requisition as you can (such as the date of the requisition, the items ordered, and the unit point of contact). The center maintains records of requisitions for 90 days.

LESSON 1

PRACTICE EXERCISE

The following items will test your grasp of the material covered in this lesson. There is only one correct answer to each item. When you complete the exercise, check your answers with the answer key that follows. If you answer any item incorrectly, study again that part of the lesson which contains the portion involved.

1. The system that includes the printing, storage, and distribution of DA publications is called _____.
 - A. ID
 - B. STARPUBS
 - C. resupply
 - D. publications control
2. Why do you need an internal distribution plan for your unit's publication account?
 - A. To help you distribute publications ordered for unit's in your section.
 - B. To help you distribute publications to other units that need them.
 - C. To help you track the ordering and distribution of publications to sections in your unit that need them.
 - D. To help you distribute publications to sections outside your unit that ordered them.
3. The USAPDC is located in _____.
 - A. San Francisco, California
 - B. Washington, District of Columbia
 - C. St Louis, Missouri
 - D. Chicago, Illinois
4. The PCO performs in a staff role at the _____ level.
 - A. company
 - B. battalion
 - C. brigade
 - D. installation
5. The PO is appointed by the _____ commander.
 - A. unit
 - B. battalion
 - C. brigade
 - D. post

6. Active Army TOE units _____-size with a PAC are authorized publications accounts.
- A. group
 - B. battalion
 - C. company
 - D. detachment
7. To request a publication account, prepare and submit a DA Form _____.
- A. 12-R
 - B. 4569
 - C. 12-17-R
 - D. 12-32-R
8. An automatic, one-time issue of a publication is known as _____.
- A. basic issue
 - B. ID
 - C. resupply
 - D. publications distribution
9. Notify the PDC if which of the following change?
- A. Time in service.
 - B. Your commanding officer.
 - C. Unit descriptive data
 - D. Your home address.
10. To receive current editions of publications, you must order them on a DA Form _____.
- A. 12-R
 - B. 4569
 - C. 12-17-R
 - D. 12-32-R
11. In what format is DA Pam 25-30 distributed?
- A. Printed and loose-leaf.
 - B. Acetate cards.
 - C. Laminated plastic.
 - D. Microfiche and CD-ROM.

12. Under the provisions of AR 25-400-2, unit publications files will be filed under file number _____.

- A. 100-12
- B. 25-30ii
- C. 1170-12
- D. 1220-8

13. Most of the publications and blank forms used in the Army are listed in _____.

- A. DA Pam 25-30
- B. DA Pam 310-2
- C. DA Pam 25-33
- D. DA Pam 310-4

14. To change your unit's requirements you must submit a DA Form _____.

- A. 12-5-R
- B. 12-34C-R
- C. 12-27-R
- D. 12-99-R

LESSON 1

PRACTICE EXERCISE

ANSWER KEY AND FEEDBACK

<u>Item</u>	<u>Correct Answer and Feedback</u>
1.	B. STARPUBS (Part A, Introduction paragraph)
2.	C. To help you track the ordering and distribution of publications to sections in your unit that need them. (Part B, paragraph 1-5)
3.	C. St Louis, Missouri (Part A, paragraph 1-2a)
4.	D. installation (Part A, paragraph 1-1b)
5.	A. unit (Part A, paragraph 1-1b)
6.	B. battalion (Part A, paragraph 1-2)
7.	A. 12-R (Part A, paragraph 1-2a)
8.	B. ID (Part A, paragraph 1-3a)
9.	C. Unit descriptive data (Part B, paragraph 1-6a)
10.	B. 4569 (Part A, paragraph 1-3c)
11.	D. Microfiche and CD-ROM. (Part A, paragraph 1-3c)

- 12. B. 25-30ii
(Part A, paragraph 1-2a)
- 13. A . DA Pam 25-30
(Part A, paragraph 1-3c)
- 14. D. 12-99-R
(Part B, paragraph 1-7a)

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LESSON 2

MAINTAINING A TECHNICAL REFERENCE LIBRARY

OVERVIEW

LESSON DESCRIPTION:

In this lesson, you will learn the correct methods for posting changes to current publications and for filing publications.

TERMINAL LEARNING OBJECTIVE:

- ACTION:** You will learn to post changes to publications and to file publications according to DA Pam 310-13.
- CONDITION:** You will be given the material contained in this lesson.
- STANDARD:** You will correctly answer the practice-exercise questions at the end of this lesson.
- REFERENCES:** The material contained in this lesson was derived from DA Pam 310-13.

INTRODUCTION

A complete, up-to-date, well-maintained technical reference library is a vital tool. Such a library ensures that the appropriate manuals or regulations are readily available. This can be the difference between a properly repaired, well-serviced piece of equipment and maintenance failure. Having the appropriate, current references, such as ARs, TMs, lubrication orders, and supply catalogs, can help you perform better maintenance. Filing the references orderly and posting the changes properly will save your soldiers valuable time when trying to locate the manuals needed to make effective repairs. Conforming to the following procedures will decrease the risk of using outdated information to make repairs, which may endanger personnel or damage equipment.

PART A - POSTING CHANGES

Publications lose much of their value if they are not kept up to date. Changes and revisions provide new information to the user. To make the reader aware of this updated

information, a publication must be properly posted. Damage, injury, or unintended violation of regulations can result from decisions based on outdated information if a change has not been posted. Posting alerts the soldier to read the change and to do as it directs. Posting may require that information be added, deleted, or modified.

It is not necessary to completely post all publications on file in an organization, office or library. Instead, direct your efforts to the publications that are used frequently. For example, a publication that prescribes an annual report should not require as much posting as a correspondence manual that is used almost daily. For seldom-used publications, it might be sufficient to merely file changes with the basic publication. Judgment based on experience, will help you determine the extent of your posting needs.

2-1. Explanation of Terms. The following is an explanation of terms associated with the publications system:

- **Basic.** An original publication, without changes, such as an AR, a field manual (FM), or a TM.
- **Change.** A separate publication containing amendments in the form of deletions, alterations, or additions to portions of a previously issued publication.
- **Posting.** The method of keeping publications up to date by entering the directed changes as they occur.
- **Revision.** A complete new edition of a publication. It replaces the previous edition in its entirety, including any changes.
- **Supersede.** To make a substitution, that is, to replace a publication, a chapter, a paragraph, a figure, or an appendix with something new.
- **Rescind.** To do away with. A publication, or a portion thereof, is rescinded when it has served the purpose for which it was issued or when the material becomes obsolete.
- **Amend.** To change or correct. Any change to a publication is an amendment
- **Loose-leaf format** A publication that can be easily taken apart. When changes to a looseleaf publication are necessary, they are normally issued as replacement pages.
- **Bound format.** A publication in which the pages are securely held together in such a way that that they can be easily removed without damage or mutilation. Changes are not issued on a replacement-page basis. Amendments affecting several pages may appear on the same page.

2-2. Rules for Posting.

- Be accurate and neat. An incorrectly or illegibly posted publication is as worthless as one that has not been posted.
- Use only a sharp, black-lead pencil. Posting can then be erased easily if future changes or corrections are necessary.
- Write the authority for changing a basic publication in the margin by the changed portion. This authority is usually a numbered change (C), for example, C1, but may be another publication or message. If the changed portion extends to more than one page, make the same notation on all pages concerned.
- Delete changed or rescinded material. When less than three lines of text are affected, draw a single line through the changed or deleted material instead of obliterating or blocking it out. When three or more lines of text are affected, line out the old material by drawing single, straight lines through the first and last lines of the text and connecting these lines from top right to bottom left. This forms a Z-shaped figure (Figure 2-1).
- Upon receipt of a new change, post any affected previous changes as well as the basic publication.

<p>Change } No. 2 } Posted 30 Apr. 85 et</p> <p>AR 27-29, 20 May 1966, is changed as follows:</p> <p>✓ Page 6. Paragraph 12a(4) is superseded as follows:</p> <p>(4) Assist the claims judge advocate or claims officer in preparing a demand on carrier, warehouseman, and/or other third party (DA Form 1819), sign all copies, and cooperate to the extent required by any Government officer or agency in the prosecution of such demand. If any part of the loss or damage appears to be covered by insurance, he will make a prompt written demand on the insurer for reimbursement under the terms and conditions of the policy, and furnish a copy thereof to the claims judge advocate or claims officer.</p> <p><u>CHANGE</u></p>	<p>AR 27-29</p> <p>12. Responsibilities and procedures: a. Property owner.</p> <p>(4) Assist the transportation officer in preparing a demand on the carrier, warehouseman, and/or other third party and will cooperate to the extent required by any Government officer or agency in the prosecution of such demand. If any part of the loss or damage appears to be covered by insurance, he will make a prompt written demand on the insurer for reimbursement under the terms and conditions of the policy, and furnish the claims judge advocate or claims officer with a copy thereof. DA Form 1819 (Demand on Carrier for Damage to or Loss of Property) may be used for this purpose.</p> <p><u>BASIC</u></p>
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Figure 2-1. Posting a supersession

a. Change Notation. When a change to a publication is received, post the change number (C_____ [fill in the correct number]) and date on the front cover of the basic publication or on the first page if there is no cover. If a change supersedes a previous change, draw a line through the superseded change number and date and show the supersession authority as shown in the following example:

C1, 14 Jun 80
~~C2, 29 Oct 81~~ Supsd by C4, 5 Jan 86
C3, 5 Feb 83
C4, 10 Sep 84

In this example, C4 superseded C2. This type of posting provides a checklist of all changes to a publication and their status.

b. Bound-Publication Change. A change to a bound publication is printed in page and paragraph sequence and keyed to the basic publication. It may consist of supersessions, rescissions, and minor amendments.

(1) Supersessions.

- Identifying. When an entire chapter, section, paragraph, subparagraph, appendix, or other portion is superseded, it is stated in the change (Figure 2-1, page 2-3). The new text of the superseded portion follows.
- Posting. Using the line-through or Z method, mark out the superseded material in the basic publication. Write “Suspd, C _____ (fill in the correct number)” in the outside margin opposite the number of the section, paragraph, figure, or other portion that is superseded.

(2) Rescissions.

- Identifying. When material is rescinded, the word “rescinded” appears in the instructions of the new change (Figure 2-2).
- Posting. Line or Z out the rescinded portion of the basic publication. Write “Resc” and the authority, such as “C1,” in the outside margin opposite the number of the rescinded portion.

(3) Additions.

- Identifying. When a new chapter, section, paragraph, appendix, figure, or other portion is added, the text is preceded by a statement that the material is being added (Figure 2-3).

<p>Change { No. 5</p> <p style="text-align: center;">ARMY RESERVE MISSION, ORGANIZATION, AND TRAINING</p> <p>AR 140-1, 25 January 1966, is changed as follows:</p> <p>Page 4. Paragraph 3u is added as follows. ✓u. Officer active duty obligor. An officer who is appointed in the USAR from the ROTC Program or under programs monitored by The Surgeon General or Chief of Chaplains who has an obligation to serve on active duty who does not enter on such active duty concurrent with his appointment.</p> <p style="text-align: center;"><u>CHANGE</u></p>	<p style="text-align: center;"><i>Posted 30 Apr. 68 eb</i></p> <p>AR 140-1</p> <p>3. Explanation of terms. The following contains an explanation of terms used in this regulation: * * * * * c. USAR schools. A table of distribution and allowance unit specifically organized for the purpose of presenting Army service school courses and selected MOS training for Reserve component personnel during reserve and annual active duty training periods.</p> <p><i>See u. Officer active duty obligor C5 (ADDED)</i></p> <p>4. Area commands. a. Area commands include—</p> <p style="text-align: center;"><u>BASIC</u></p>
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Figure 2-2. Posting a rescission

<p>Change { No. 4</p> <p>AR 735-7, 14 September 1964, is changed as follows:</p> <p>✓Page 4, paragraph 10a, line 7. Change "AR 35-14" to read "AR 35-8."</p> <p>✓Page 5, paragraph 11m. The following sentence is added: "Policies for recovery of nonrecurring costs such as engineering, tooling and the like applicable to Foreign Sales are set forth in appendix II."</p> <p style="text-align: center;"><u>CHANGE</u></p>	<p>AR 735-7</p> <p>10 Accessorial costs. r. When reimbursement of accessorial costs is required, the objective is to use uniform Department of the Army rates to be applied to the inventory standard prices established for the material shipped. The policy and rates prescribed in AR 35-8 will be used for this purpose. <i>AR 35-8</i> * * * * *</p> <p>11. Pricing policies applicable to material financed by military appropriated funds. * * * * *</p> <p>m. Standard prices for materiel manufactured under commercial contracts or at Government manufacturing facilities will include all indirect costs such as engineering, tooling, quality assurance, and documentation financed by the procuring appropriation. When costs of this nature are not applicable exclusively to items placed under contract during the year in which the costs were incurred, they may be prorated on a percentage basis over the total production of the item so that the standard price may include a fair share of the total indirect costs. When expenditures of a prior year are representative of total production costs, the indirect cost may be prorated on the basis of the prior year cases. Reimbursement transfers of such materiel will be billed at the standard price.</p> <p><i>See CA price A sentence added.</i></p> <p style="text-align: center;"><u>BASIC</u></p>
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Figure 2-3. Posting an addition

- Posting. Insert in the proper sequence, the number of the new chapter section, paragraph, or other portion (also include the title when space allows) followed by the word "ADDED" in parenthesis. Write the authority, such as "see C1," in the outside margin opposite the entry.

(4) Minor Changes.

- Identifying. Instructions for the change will identify the action required, such as the addition, deletion, or amendment of words, phrases, or sentences (Figure 2-4).
- Posting. If space in the basic publication permits, write the added or changed portion in the proper place. Write the authority in the outside margin opposite the changed portions. Line out deletions and write the authority in the margin. If there is sufficient space for the added material write "sentence(s) added" or "words added" in the proper place in the text or as near to it as possible. A caret (^) may be inserted where the material is to appear.

<p>Change { No. 4 }</p> <p>AR 735-7, 14 September 1964, is changed as follows:</p> <p>✓ Page 4, paragraph 10a, line 7. Change "AR 35-14" to read "AR 35-8."</p> <p>✓ Page 5, paragraph 11 m. The following sentence is added: "Policies for recovery of nonrecurring costs such as engineering, tooling and the like applicable to Foreign Sales are set forth in appendix II."</p> <p style="text-align: center;"><u>CHANGE</u></p>	<p>AR 735-7</p> <p>10 Accessorial costs - When reimbursement of accessorial costs is required, the objective is to use uniform Department of the Army rates to be applied to the inventory standard prices established for the material shipped. The policy and rates prescribed in AR 35-14 will be used for this purpose. AR 35-14 AR 35-8 * * * * *</p> <p>11. Pricing policies applicable to materiel financed by military appropriated funds.</p> <p style="text-align: center;">* * * * *</p> <p>m. Standard prices for materiel manufactured under commercial contracts or at Government manufacturing facilities will include all indirect costs such as engineering, tooling, quality assurance, and documentation financed by the procuring appropriation. When costs of this nature are not applicable exclusively to items placed under contract during the year in which the costs were incurred, they may be prorated on a percentage basis over the total production of the item so that the standard price may include a fair share of the total indirect costs. When expenditures of a prior year are representative of total production costs, the indirect cost may be prorated on the basis of the prior year cases. Reimbursement transfers of such materiel will be billed at the standard price.</p> <p style="text-align: right;">Sentence added. <u>BASIC</u></p>
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Figure 2-4. Posting minor changes

(5) Repetitive Changes

- Identifying. An identical change that must be made in several places usually appears at the beginning of the change. Either the concerned portions are specified; or if they are numerous, a statement explains that the change applies wherever the word or phrase appears. For example, in paragraphs 2, 4, 7, 18, and 35, wherever the phrase DA Form 623 appears, it is changed to read DA Form 1436.
- Posting. When specific paragraphs are listed, make the change in the text as space permits and write the authority in the outside margin. If paragraphs are not listed, post the change and the authority at the top of the first page of the basic publication. For example, Change DA Form 623 to DA Form 1436 wherever it appears--per C1.

c. Change With an Effective Date. Use the proper procedures to post the change to the basic publication. In addition, write the change authority and the effective date in the margin of the basic publication (Figure 2-5).

<p>Change No. 5</p> <p>AR 140-1, 2, January 1966, is changed as follows:</p> <p>✓ Page 6. Paragraph 9a(8) is added as follows, effective 1 January 1968: (8) USAR control group (officer active duty obligor).</p> <p><u>CHANGE</u></p>	<p>Posted 30 Apr. 68 26</p> <p>AR 140-1</p> <p>9. Organizational structure of USAR.</p> <p>a. Ready Reserve consists of--</p> <ol style="list-style-type: none">(1) Members assigned to troop program units.(2) USAR control group (annual training) to include members thereof attached to reinforcement training units and USAR school student detachments.(3) USAR control group (reinforcement) to include members thereof attached to reinforcement training units and USAR school student detachments.(4) USAR control group (mobilization designee) to include members thereof attached to mobilization designation detachments.(5) USAR school staff and faculty.(6) USAR control group (delayed).(7) USAR control group (ROTC).(8) - (ADDED) <p>b. Standby Reserve consists of--</p> <ol style="list-style-type: none">(1) Control group (standby).(2) Control group (inactive).(3) Control group (ineligibles). <p>See C5 EFF 1-Jan 68</p> <p><u>BASIC</u></p>
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Figure 2-5. Posting changes with effective dates

d. Notations to the Change Instruction Sheet. Place a check mark by each item of a change as it is posted to the basic publication. This will prevent you from overlooking portions of the change if an interruption occurs. After posting, enter the word "Posted," the date, and your initials at the top of the first page of the change (Figure 2-6).

Change No. 8	Posted 30 Apr. 68 <i>eb</i>	AR 638-40 *C 8 HEADQUARTERS DEPARTMENT OF THE ARMY Washington, D.C., 29 March 1968
DECEASED PERSONNEL CARE AND DISPOSITION OF REMAINS		
AR 638-40, 20 February 1964, is changed as follows:		
1. The material which has been added or modified by this change is indicated by a star.		
2. The following changes will be made:		
<input checked="" type="checkbox"/> a. Page iv. Add "Appendix VIII—Mortuary Supplies and Equipment".		
<input checked="" type="checkbox"/> b. Page 1-4, paragraph 1-9a(1). Add subparagraph g as follows:		
g. Adjustments (increase or decrease) in interment and/or funeral allowances.		
<input checked="" type="checkbox"/> c. Page 1-4, paragraph 1-9b. Change title of this paragraph to read "Responsibilities of Army authorities in the continental United States".		
<input checked="" type="checkbox"/> d. Page 3-5, paragraph 3-7b(6). Change subparagraph "(6)" to read subparagraph "(7)".		
<input checked="" type="checkbox"/> e. Page 7-1, paragraph 7-2a. Delete "Orleans, France" and add "DaNang, RVN".		
<input checked="" type="checkbox"/> f. Page 7-9, paragraph 7-8d(7). In the last sentence change the reference made to "a(2) above" to read "a(3) above".		
<input checked="" type="checkbox"/> g. Page 7-9, paragraph 7-8f. Change "Chief of Finance" to read "Chief of Finance and Accounting, Office, Comptroller of the Army".		
3. Remove old pages and insert new pages as indicated below:		
Remove pages—	Insert pages—	
<input checked="" type="checkbox"/> 1-5	1-5	
<input checked="" type="checkbox"/> 3-3 and 3-4	3-3 and 3-4	
<input checked="" type="checkbox"/> 4-1 through 4-4	4-1 through 4-3	
<input checked="" type="checkbox"/> 7-5 and 7-6	7-5 and 7-6	
<input checked="" type="checkbox"/> 11-5 and 11-6	11-5 and 11-6	
<input checked="" type="checkbox"/> 13-1 through 13-3	13-1 through 13-3	
<input checked="" type="checkbox"/> A1-1 and A1-2	A1-1 and A1-2	
<input checked="" type="checkbox"/>	A8-1 through A8-3	
4. This change authorizes an increase in the maximum interment allowances, effective 1 February 1968, for burials made in private, civilian or Government cemeteries. Increases authorized are indicated in paragraph 13-3 a and b.		
5. In addition to the increase in the interment allowances, this change authorizes the following:		
a. An increase from \$400 to \$500 in the maximum amount allowable as reimbursement when next of kin arranges the preparation of remains and no contract is in effect at place of death (para 4-5b).		
b. Payment of an amount not to exceed \$30 for rental cost of the casket cover (soft-pack) as required for shipment of remains via commercial aircraft.		
*This change supersedes DA message 849130, 26 January 1968.		

Figure 2-6. Change instruction sheet (loose-leaf publication)

e. **Loose-Leaf-Publication Changes.** A change to a loose-leaf publication usually provides revised and new pages for insertion in the basic publication. Each change has a cover sheet with instructions for making the change (Figure 2). The new pages to be inserted and the old pages to be removed are normally identified by a remove-and-insert table or by a list of effective pages. The following procedures should be used to post changes to a loose-leaf publication:

- Read the change instruction sheet. Check the actual pages furnished against the list of pages to be inserted shown in the remove-and-insert table or the list of effective pages. Ensure that they agree and that all pages are included. If pages are missing, order a new copy of the change through your publications supply channels.
- Remove or insert pages directed. Using the remove-and-insert table or the list of effective pages, remove the pages being replaced and destroy them. Insert the new pages in proper numerical order. Sometimes pages are not numbered in the usual sequence because the new material does not fit on the old page and must be continued on a new one. These additional pages bear the preceding even-page number plus a decimal or a capital letter. For example, added pages 3-2.1 and 3-2.2, or 3-2A and 3-2B should be filed in sequence following page 3-2 and preceding page 3-3. The instructions may also direct that pages be removed and not be replaced. In such cases, write “next page is _____ (fill in correct page number)” at the bottom of the page preceding the ones removed if this has not already been preprinted on the change.
- Post minor changes in the text. The change instructions may direct that minor changes be made. If there is room, make the change directly on the page being changed. Also, write the change authority in the outer margin opposite the revised portion (see bottom of Figure 2-4, page 2-6).
- Remove superseded section. If the change instruction sheet contains a supersession notice at the bottom of the page move the superseded publication from the files and destroy it.
- Verify and record the posting and file the change sheet. After verifying that all posting has been completed, write “Posted,” the date, and your initials at the top of the change instruction sheet. File the change instruction sheet in front of the publication.

PART B-FILING PUBLICATIONS

Local policies concerning the location of publications may differ according to the size of the unit, the organization, or the headquarters. Whatever the type or size of the office, you should locate publications so they are convenient to the people who use them.

Some types of publications, such as DA circulars, contain an automatic expiration date and are no longer in effect after that date. For example, Expires 15 May 1985. Files of such

publications should be reviewed periodically or individual items should be flagged so that expired publications are removed and destroyed.

2-3. Filing Unclassified Publications. Generally, publications should be filed by type - all ARs together, all pamphlets together, all FMs together, all TMs together, and so forth. Within each type, file publications numerically, in ascending order. When a publication number includes letters, file them numerically-alphabetically in ascending order. The following is an example of a proper filing arrangement of TMs:

TM 5-3805-250-14
TM 5-3805-251-12
TM 5-3805-251-34
TM 5-3805-253-34
TM 5-3805-255-14 & P1
TM 5-4310-451-14 & P
TM 5-4930-207-12

Because of the mission or other requirements in small organizations and offices it may be desirable to file publications by function rather than type. You may group together all publications on a given subject. In another instance, you may file TMs, technical bulletins, and modification work orders together that relate to the same item of equipment.

Most DA publications have prepunched holes for filing in ring binders. Three-ring binders are particularly suitable for loose-leaf publications because you can easily remove and insert pages. Some bound publications are of such size that they do not have to be filed in binders. The number on the spine of a bound publication can be identified without removing the publication from a shelf.

When using binders, label each one to show its contents. As preferred methods, use metal, slip-on label holders as shown in Figure 2-7 or attach labels to the spine of the binder with

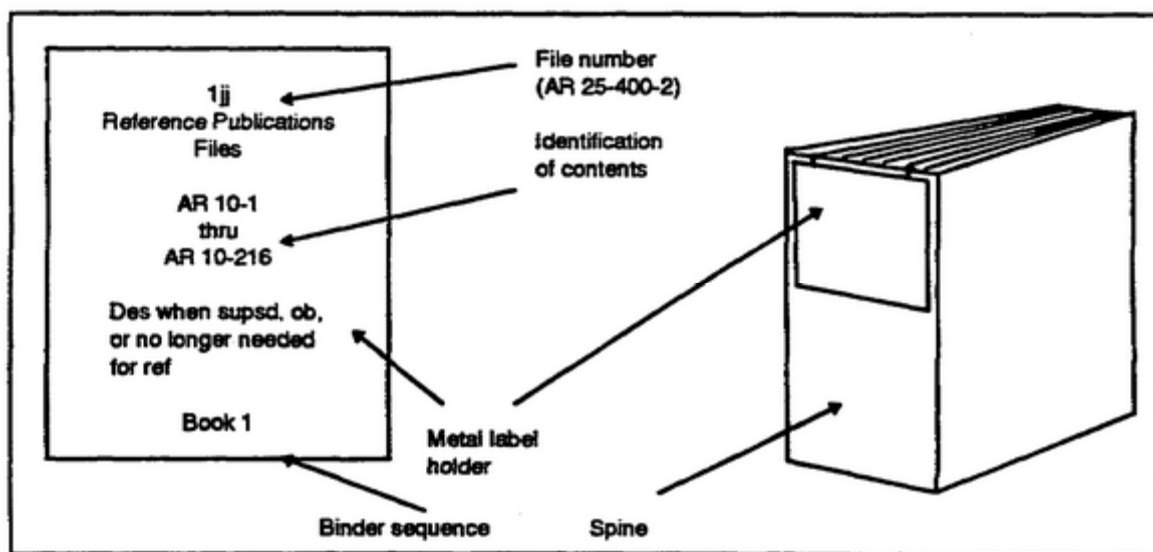


Figure 2-7. Labeling a binder

transparent tape. Do not use permanent marking materials on the binder's spine or cover. Such markings make reuse of the binder difficult if the contents change. Gummed labels are hard to remove if relabeling is necessary and should be used only when no other suitable material is available.

2.4. Filing Changes. File changes to bound publications in front of the basic publication. After inserting new pages of a loose-leaf change, file the change instruction sheet in front of the updated basic publication. Always place the latest change or change sheet on top.

2-5. Filing Different-Size Publications. Although most DA publications are 8 1/2 x 11 inches, the Army prints publications in several different sizes because of format requirements or intended usage. Sometimes an odd-size publication cannot be filed in numerical order with other publications in a binder. Insert a sheet of paper containing the number, the date, the title, and the filing location of the odd-size publication in the binder in the proper sequence.

LESSON 2

PRACTICE EXERCISE

The following items will test your grasp of the material covered in this lesson. There is only one correct answer to each item. When you complete the exercise, check your answers with the answer key that follows. If you answer any item incorrectly, study again that part of the lesson which contains the portion involved.

1. An original publication, without changes, is known as the _____.
 - A. change
 - B. basic
 - C. bound
 - D. loose-leaf
2. When a publication has served the purpose for which it was intended, it should be _____.
 - A. revised
 - B. posted
 - C. superseded
 - D. rescinded
3. Keeping publications up to date by entering directed changes is known as _____.
 - A. amending
 - B. posting
 - C. revising
 - D. superseding
4. A complete new edition of a current publication is called _____.
 - A. the basic
 - B. a change
 - C. a revision
 - D. an amendment
5. Deletions, alterations, and additions to publications are called _____.
 - A. amendments
 - B. changes
 - C. revisions
 - D. A and B

6. When less than three lines of text are affected by a change, the correct procedure is to _____.
- A. X out the changed text
 - B. Z out the changed text
 - C. line out the changed text
 - D. black out the changed text
7. The correct order for filing publications is _____.
- A. numerically ascending
 - B. numerically descending
 - C. alphabetically ascending
 - D. alphabetically descending
8. The preferred method of labeling binders is to use _____.
- A. white paint
 - B. masking tape
 - C. gummed labels
 - D. slip-on label holders
9. Your posting should be neat and accurate and you should use a _____.
- A. blue-inkpen
 - B. blue/black-ink pen
 - C. red-ink pen
 - D. black-lead pencil
10. You must completely post publications which are used _____.
- A. to order parts
 - B. frequently
 - C. by mechanics
 - D. for inspection purposes

The following exercises are included to give you experience in the actual posting and filing of publications. The job conditions are as follows:

You are a sergeant, MOS 62B20, assigned to Company B, 88th Engineer Battalion (Combat Heavy), Fort Chaos, Kansas. Your maintenance supervisor has assigned you the task of updating the section's technical library. This entails posting and filing on-hand regulations.

11. You have been given Supplement 1 to AR 672-20 and the necessary pages from AR 672-20. You are to post this supplement to the basic publication using Figures PE 2-1 through PE 2-4, pages 2-15 through 2-18.

12. You have been given Change 1 to TM 5-2805-254-13 and the necessary pages from that manual. You are to post this change to the manual. Use Figures PE 2-5 through PE 2-11, pages 2-19 through 2-25.

13. You have been given Change 2 to TM 5-2805-254-13 and the necessary pages from that manual. You are to post this change to the manual. Use Figures PE 2-12 through PE 2-24, pages 2-26 through 2-38.

14. You have been assigned to arrange a technical library that contains the publications listed below. What is the correct arrangement for this library?

TM 5-3810-289-12

TM 5-2410-214-12

TM 5-2410-233-34

TM 11-6625-366-10

TM 5-350

TM 5-3805-201-35P

TM 5-3805-237-20P

TM 5-2410-234-14 & P1

TM 5-4310-451-14 & P

TM 5-3895-353-14 & P

9 January 1986

Decorations, Awards and Honors
INCENTIVE AWARDS

Issue of further supplements to this regulation by subordinate Commanders is prohibited unless specifically approved by HQ. Instructions contained herein apply to all elements of the command including tenants, except United States Army Medical Department Activity and Dental Activity.

AR 672-20, 1 June 1982, as supplemented by TRADOC Supplement 1, 30 Jul 82, is further supplemented as follows:

Page 1-3, paragraph 1-8. Policy. Add to subparagraph k.

Monetary awards, except for Special Act or Service, will not be approved after it is known that an employee intends to retire or resign. A letter of appreciation may be used to recognize the performance and services of such employees. The retirement certificate signed by the Commanding General is designed to show official appreciation for a retiring individual. Supervisors may, however, also issue letters of appreciation or other informal types of recognition.

Page 1-4, paragraph 1-11. Responsibilities. Add subparagraph e(5).

(5) The Commanding General will present suggestion awards in excess of \$350 and honorary awards approved by higher headquarters. The approving authority will determine the level of management at which the Special Act or Service Award will be presented.

Page 1-4, paragraph 1-11. Responsibilities. Add subparagraph f(5).

(5) To assist in carrying out administrative responsibilities, Directors, Commanders and Personnel and Special Staff Officers will appoint an Incentive Awards Program Coordinator. The name of the coordinator will be furnished to the Civilian Personnel Officer.

Page 1-5, paragraph 1-12. Organization of Incentive Awards Committee. Add subparagraph b(8).

(8) The Chairman of the Incentive Awards Committee will be appointed by the Commanding General. Incumbents of the positions listed below comprise the voting membership of the Incentive Awards Committee. An alternate Committee member may be designated when the incumbent is not able to attend the Incentive Awards Committee meeting.

- (a) Installation Stock Fund Manager, Directorate of Logistics (DOL).
- (b) Management Analyst, Directorate of Resource Management (DRM).
- (c) Environment Engineer, Directorate of Engineering and Housing (DEH).
- (d) Chief, Management-Employee Relations, Civilian Personnel Office (CPO).
- (e) Installation Occupational Safety and Health Manager, Directorate of Personnel and Community Activities (DPCA).
- (f) Sergeant Major, 1st Training Support Brigade.
- (g) Sergeant Major, 2d Training Brigade (OSUT).
- (h) Sergeant Major, 3d Basic Training Brigade.
- (i) Sergeant Major, 4th Training Brigade.
- (j) Union representatives as provided in negotiated agreements.
- (k) Nonvoting Member, Incentive Awards Administrator (CPO).

*This supplement supersedes Supplement 1, 11 Jun 84, to AR 672-20.

Figure PE 2-1. Supplement 1 to AR 672-20

They will both identify subjects or problems in which constructive ideas are desired and provide positive support to the Suggestion Program. Supervisors who have demonstrated unusual ability to stimulate participation will be given (letters of commendation or other) appropriate recognition.

g. Both an honorary and a monetary award may be granted to civilian and military personnel for the same act or achievement if the criteria for each award are met. The same act or achievement, however, cannot form the basis for more than one type of monetary or DA honorary award.

h. Performance awards (Quality Increases, Sustained Superior Performance, and other honorary awards) are supervisor initiated and awarded at the discretion of management when applicable criteria provided in this regulation are met. Failure to receive such an award is not a basis for a grievance or appeal.

i. Management actions in connection with this regulation are subject to grievance procedures only when a violation of the applicable provisions has occurred.

j. Adverse actions based upon employee performance or conduct or Equal Employment Opportunity (EEO) investigations may be pending on employees nominated for honorary or cash performance awards. If so, action on the awards will be suspended until a determination can be made that granting of the award is not inconsistent with the proposed adverse action or final EEO determination and would not jeopardize the merits of the proposed action. This does not apply to awards for adopted suggestions.

k. The intent of the legislation establishing this program is to provide monetary or honorary recognition for civilian officers or employees of the Government who, by their suggestions, inventions, or superior accomplishments, contribute to the economy, efficiency, or other improvement of Government operations; or who perform special acts or services in the public interest in connection with or related to their official employment. Recognition should be awarded on a timely basis. It should not be awarded as a farewell gesture incident to separation or retirement. The foregoing also applies to military personnel, within the limits

prescribed by section 1124, title 10, United States Code.

1-9. Nonappropriated fund instrumentalities. a. AR 230-2 covers the Incentive Awards Program for nonappropriated fund instrumentalities.

b. Suggestions pertaining to appropriated fund activities submitted by nonappropriated fund personnel will not be forwarded to the pertinent Army organization for evaluation until the suggester—

(1) Understands that he or she is not eligible for a cash award if the suggestion is adopted.

(2) Consents to the use of his or her suggestion by execution of a waiver.

c. Cash awards are not payable under this program to appropriated fund employees for benefits accruing to nonappropriated fund organizations and activities.

1-10. Authority to approve cash awards. a. Major commanders may approve individual and group cash awards up to \$10,000, inclusive of awards approved by activity commanders. Nominations for cash awards in excess of \$10,000 must be forwarded to the Executive Secretary, Army Incentive Awards Board, HQDA(DAPE-CPL), WASH DC 20310, for review.

b. Major commanders may redelegate to subordinate commands or activities the authority to approve cash awards in any amount up to \$10,000.

1-11. Responsibilities. a. *Secretary of the Army (SA)*. The SA will submit the following to the Office of Personnel Management (OPM):

(1) Award recommendations of over \$10,000.

(2) Recommendations for Presidential Awards.

(3) New or revised Incentive Awards regulations or plans (30 days before the proposed effective date of the regulation or plan).

(4) The required annual report on the Incentive Awards Program.

b. *Deputy Chief of Staff for Personnel (DCSPER)*. The DCSPER will exercise staff supervision over the Incentive Awards Program Army-

Figure PE 2-2. Page 1-3 of AR 672-20

wide. The functions, including those portions of the program that apply to military personnel, will be staffed and administered at all levels as a part of the Civilian Personnel Program. Proper coordination will be effected with military personnel elements on military participation in the program.

c. Army Incentive Awards Board. This Board will make recommendations on incentive award nominations requiring SA approval and provide advice on matters relating to policy, regulatory criteria, and design of the more significant awards.

d. Major Army commanders. Major Army commanders will—

(1) Exercise staff supervision over Incentive Awards Programs within their command, including program planning and evaluation.

(2) Issue supplemental instructions for command-wide suggestion campaigns or competitions, when conducted.

(3) Establish supplemental recognition devices adapted to MACOM organizations.

(4) Approve or recommend approval of awards as prescribed in this regulation.

(5) Establish Incentive Awards committees, as needed, to—

(a) Consider those award recommendations requiring the approval of the major commander.

(b) Establish proper command goals consistent with departmental program objectives.

(c) Evaluate the total command Incentive Awards Program and develop feedback to subordinate activities.

(d) Assist subordinate activities in planning Incentive Awards Program activities.

(e) Recommend aspects of the program for special emphasis.

e. Activity commanders. These commanders will administer and promote the Incentive Awards Program. Commanders will take action or direct action to insure that—

(1) Supervisors are provided guidance and staff assistance in—

(a) Encouraging participation in the program.

(b) Initiating appropriate recognition actions for employee achievements.

(2) Publicity is given to the entire program.

(3) Information on the program is brought to the attention of all personnel.

(4) Program requirements established by HQDA and major Army commanders are accomplished; followup actions are taken in support of operating goals.

f. Civilian personnel officers. These officers at all organizational levels will—

(1) Provide positive program leadership and sufficient numbers of qualified staff to implement the Incentive Awards Program, including those portions that apply to military personnel.

(2) Provide training and orientation of all employees on how they may earn awards.

(3) Provide guidance and assistance to supervisors, managers, and Incentive Awards committees in carrying out their responsibilities under this program.

(4) Maintain required records and submit required reports.

g. Information officers. These officers at all levels will aid in publicizing and promoting the activities in support of the Incentive Awards Program.

h. Supervisors. Supervisors at all levels will—

(1) Initiate recommendations for appropriate awards for achievements or special acts or services.

(2) Encourage personnel to develop suggestions.

(3) Take prompt actions on suggestions submitted for evaluation.

i. Commanders in foreign areas. These commanders will develop and implement an Incentive Awards Program for indirect-hire foreign national employees. The program may include similar requirements prescribed by this regulation.

1-12. Organization of Incentive Awards committees. *a. General.*

(1) One Incentive Awards Committee will normally be established at each installation that has

Figure PE 2-3. Page 1-4 of AR 672-20

an operating Civilian Personnel Office (CPO). This committee may also service all activities administered by the CPO despite command jurisdiction. These activities include military personnel, elements, units, or organizations based on the activity.

(2) If, because of size or distance, the use of one committee is not the most effective arrangement, two or more awards committees, particularly for large tenant activities, may be established. The CPO will have the same relationship to separate committees for serviced activities as to the installation committee. Commanders of serviced activities will approve awards for personnel under this jurisdiction when approval of the local commander is required. Action required above the activity level will be channeled through serviced command channels.

b. Membership.

(1) The commander will appoint at least five voting members to the committee. Any person who is eligible to take part in the program may be considered for membership.

(2) Committee members should be persons who have knowledge of the activity and its mission, are objective, demonstrate good judgment, and enjoy the confidence of the work force at large.

(3) Committees should include key persons from the major elements of the activity. Normally, they will include a representative from the Office of the Comptroller and the CPO.

(4) In organizations in which the work is mostly technical or scientific in nature, at least one committee member should have the pertinent background.

(5) Commanders will insure that females and members of minority groups are included in the membership of Incentive Awards committees at all command and activity levels.

(6) A nonvoting executive secretary will be assigned to perform necessary administrative duties.

(7) There may be substantial activity by military personnel in the areas of suggestions, inventions, or scientific achievements. If so, the

organizational element concerned with military personnel administration should be represented.

c. Use of alternate members. An ad hoc committee may be convened or alternate committee members may be designated to consider awards being recommended for employees who—

(1) Are members of the Incentive Awards Committee.

(2) Supervise or who are supervised by committee members.

(3) Are related to committee members.

1-13. Functions of the Incentive Awards committees. Incentive Awards committees will perform the following functions:

a. Consider and present recommendations to the commander concerning—

(1) Nominations for cash and honorary awards that exceed the approval authority delegated to subordinate officials.

(2) Nominations that are competitive, and involve the evaluation of accomplishments of several individuals or groups.

(3) Difficult, complex, or controversial cases. Such cases might arise as the result of an employee's request for reconsideration of a prior action.

b. Assist the civilian personnel officer to—

(1) Plan Incentive Awards Program activities.

(2) Determine aspects of the program to be given special emphasis.

(3) Implement new program features.

(4) Improve local techniques.

c. Evaluate the effectiveness of the program in organizational units, including—

(1) Analysis of results and trends.

(2) Appraisal of employee, supervisor, and management reactions.

d. Conduct periodic postaudit reviews of selected adopted suggestions to determine whether anticipated savings are later realized. (These audits may be conducted at the request of the local Incentive Awards committees by internal review or other regularly constituted independent staffs

Figure PE 2-4. Page 1-5 of AR 672-20

CHANGT. }
No. 1 }

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 16 April 1968

Operator, Organizational, and Direct
Support Maintenance Manual
Including Repair Parts and Special Tool Lists

OUTBOARD MOTOR, GASOLINE, 25 HORSEPOWER;
(CHRYSLER OUTBOARD CORPORATION MODEL G35691)
FSN 2805-926-0894

TM 5-2805-254-13, 16 May 1967, is changed as follows:

Page 3. Paragraph 1c is superseded as follows:

c. Report of errors, omissions and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded direct to the Commanding General, U.S. Army Mobility Equipment Command, ATTN: AMSME-MPP, 4300 Goodfellow Boulevard, St. Louis, Mo. 63120.

Page 9, paragraph 6. In line 8 after "positions", the following is added: Before starting the outboard motor, inspect all visible fasteners to insure that they are properly tightened. Upon receipt of the motor, and before being placed in use, it will be operated for five hours. During this period, observe the motor closely and repair all systems and components which are not working properly.

Page 13. The following paragraph is added after paragraph 12.

12.1. Instructions Prior To Operating Motor
The 25 horsepower outboard motors are engines with multi-purpose capabilities. They can be used either on boats or on bridge rafts. To assure maximum service at all times, observe the following instructions:

a. Do not operate the outboard motor in shallow or debris-laden water except under emergency conditions. If this type operation is necessary, carry a spare propeller for each motor.

b. Before using the automatic rewind starter, make certain that all cosmaline is removed from the starter mechanism. When using the starter, be sure it is engaged before 12 inches of rope is unwound from the cowl. If the starter does not work in an emergency, extract the starter rope from the spool as far as possible, cut with a knife, tie a knot in the rope, and use the alternate starting sheave on top of the flywheel. The shield on top of the flywheel must be removed to provide access to the alternate starting sheave.

c. Place and keep the steering handle in an upright position when carrying or putting an outboard motor on a boat. This will avoid breaking the handle should it strike the ground or boat while the motor is being moved or placed in position.

d. Do not attempt to remove the flywheel, or other components which require the use of special tools, until necessary special tools have been received.

e. Exercise care when using a motor in situations such as rafting where numerous shifting operations are involved. Always cut the throttle

Figure PE 2-5. Page 1 of Change 1 to TM 5-2805-254-13

back to idle and allow sufficient time for the motor to slow down to an idle speed before shifting gears.

f. Do not use 25 HP outboard motors on boats with gross weights (boat plus load) below 500 pounds.

g. Do not maneuver rafts into or away from shore with motors operating at full throttle. Observe the following procedures when operating motors on bridge rafts:

(1) Before attempting rafting operations, prepare the landing site to insure that motors will not strike the bottom when landing is attempted. If possible, select a natural landing where the water is deep enough to prevent the motors from striking bottom.

(2) Use only three motors to propel rafts. One inboard motor should be left out of gear and idling at all times. This motor should be used in emergencies only.

(3) Approach and leave landings slowly. Cut motors to part throttle while well away from shore when approaching a landing.

(4) Use two motors only for maneuvering. When maneuvering a raft into or away from shore, the two inboard motors should be out of gear and idling. If cavitation (noticeable increase in RPM) occurs on a motor, the operator must immediately cut the throttle back to idle until the cavitation stops.

(5) If a raft becomes firmly grounded and cannot readily be freed by four outboard motors, it will be necessary to use another craft to free the raft.

Page 13, paragraph 18. In line 4 after "position", the following is added: If the motor fails to stop when the throttle is in the stop position, pull the choke to stop. Do not attempt to repair the magneto ground out system.

Page 103, column 5, line 2. Change FSN "2920-618-2688" to read "2920-288-3125".

By Order of the Secretary of the Army:

Official:

KENNETH G. WICKHAM,
Major General, United States Army,
The Adjutant General.

HAROLD K. JOHNSON
General, United States Army,
Chief of Staff.

Distribution:

To be distributed in accordance with DA Form 13-25, Section 1, Organizational Maintenance Requirements for Outboard Motors 25 HP.

U.S. GOVERNMENT PRINTING OFFICE: 1968-302-016/2288

20-21

Figure PE 2-6. Page 2 of Change 1 to TM 5-2805-254-13

TM 5-2805-254-13

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

**OPERATOR, ORGANIZATIONAL, AND
DIRECT SUPPORT MAINTENANCE MANUAL
INCLUDING REPAIR PARTS AND
SPECIAL TOOL LISTS**

**OUTBOARD MOTOR, GASOLINE, 25
HORSEPOWER (CHRYSLER OUTBOARD
CORPORATION MODEL G35691)
FSN 2805-926-0894**

**HEADQUARTERS, DEPARTMENT OF THE ARMY
MAY 1967**

Figure PE 2-7. Cover of TM 5-2805-254-13

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. Scope

a. These instructions are published for the use of the personnel to whom the Chrysler 25 horsepower outboard motor is issued. Chapters 1 through 4 provide information on the operation, preventive maintenance services, and organizational maintenance of the equipment, accessories, components, and attachments. Chapters 5 and 6 provide information for direct support maintenance.

b. Appendix I contains a list of publications applicable to this manual. Appendix II contains the maintenance allocation chart. Appendix III contains the list of basic issue items authorized the operator of this equipment and the list of maintenance and operating supplies required for initial operation. The organizational and direct support maintenance repair parts and special tools are listed in appendix IV.

c. The direct reporting by the individual user, of errors, omissions, and recommendations for improving this manual is authorized and encouraged. DA Form 2028 (Recommended Changes to DA Publications) will be used for reporting these improvements. This form will be completed by the individual using the manual and forwarded direct to the Commanding General, U. S. Army Mobility Equipment Command, ATTN: AMSME-MPD, 4300 Goodfellow Blvd., St. Louis, Mo., 63120.

d. Report all equipment improvement recommendations as prescribed by TM 38-750.

2. Record and Report Forms

a. DA Form 2258 (Depreservation Guide for Vehicles and Equipment).

b. For other record and report forms applicable to operator, crew and organizational maintenance, refer to TM 38-750.

Note. Applicable forms shall be kept in a canvas bag mounted in the equipment carrying case.

Section II. DESCRIPTION AND DATA

3. Description

The 25 horsepower, manual start, outboard motor (fig. 1 and 2) has a 35.9 cubic inch displacement and is capable of operation in forward, neutral and reverse. This outboard engine is water cooled by a water pump which acts as a displacement pump at low speeds and as a centrifugal pump at high speeds. Fuel is supplied to the engine from an auxiliary fuel tank with a capacity of six U.S. gallons.

4. Identification and Tabulated Data

a. *Identification.* The 25 horsepower, manual start, outboard motor has one major identification plate. The information contained on this plate is listed below:

tification plate. The information contained on this plate is listed below:

Manufacturer _____ Chrysler Outboard Corporation
Model number _____ G 35691
Brake horsepower _____ 25
Serial number _____ 66001 through 66774

b. Tabulated Data.

(1) Engine.

Manufacturer _____ Chrysler Outboard Corporation
Type _____ Manual Start
Model _____ G 35691
Bore _____ 3 inches
Stroke _____ 2.540 inches
Fuel _____ 1/8 pt. oil to 1 U.S. gallon of gasoline
Piston displacement _____ 35.9 cubic inches

Figure PE 2-8. Page 3 of TM 5-2805-254-13

CHAPTER 2

INSTALLATION AND OPERATING INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

6. Inspecting and Servicing Equipment

Inspect the propeller for missing, bent, or cracked blades. Move the steering handle from the vertical to the horizontal operating position, check for relative ease of movement. Rotate the control grip on the steering handle, ascertain that the pointer of the grip does not rotate past the clockwise and counterclockwise indicated operating positions.

7. Installation Instructions

a. Install motor (or motors) at center of the transom of boat making certain that the clamp screws are drawn up tightly to secure motor firmly. To prevent the motor from tilting sideways during severe turns a notch is provided in the stern bracket plate to accommodate a bolt through the transom and plate, which will effectively prevent the motor from coming off the transom, figure 5.

b. Connect the fuel tank to the engine by engaging the fuel line coupling with the bushing on the support plate. Pull back the lock ring and push the coupling onto the bushing. Release the lock ring. It should snap back into place. Check coupling to make sure that it is secure.

c. Tilt adjustment can be made only after performance of boat is tested in a trial run. Start motor and operate at full speed for this

test. Should boat not plane properly (bow rides high out of water) then the motor leg is tilted too far from the stern. Should boat seem to "dig-in" or plow through water in test run then the motor leg is too close to stern. This is corrected by tilting leg of motor outward from stern and locking it at greater angle from stern. The weight of load and distribution of weight in boat will necessitate changes in tilt-lock positions. For maximum performance motor leg should be at right angle to surface of water at full throttle.

d. The motor is equipped with a reverse lock to prevent it from tilting out of the water when operating in reverse and also to release the engine when an underwater object is struck when operating in forward gear. The impact load triggers the release system and allows the engine to tip up and pass over the object (fig. 6). After passing over the object, the engine may not lock back in the running position, therefore, manually return the engine to the locked position.

e. For larger boats and heavier loads two motors are advantageous. In this case the motors should be properly spaced on boat transom. For best performance both motors should be throttled to operate at approximately same speed to prevent boat "sluing" to one side or other (result of uneven propeller thrust when underway).

c. After the one hour break-in period has been completed, the engine may be operated at any speed desired. However, during the first ten hours of operation, it is imperative that the gasoline to oil ratio of one part heavy duty outboard motor oil (SAE 30) to twenty-four parts of gasoline as described above be used. After the first ten hours of operation have been completed, use the gasoline to oil ratio as described under "Fuel Mixture."

12. Fuel Mixture

Recommended fuel mixture after the first ten hours of operation have been completed is **ONE PART HEAVY DUTY OUTBOARD MOTOR OIL (SAE 30) TO FIFTY PARTS OF MARINE WHITE OR REGULAR GRADE (APPROXIMATELY 85 OCTANE) GASOLINE BE USED.** For easy measurement mix **ONE PINT OF OIL WITH SIX GALLONS OF GASOLINE.** **THIS MIXTURE MUST NOT BE USED UNTIL AFTER THE FIRST TEN HOURS OF OPERATION HAVE BEEN COMPLETED.**

Note. When the engine is used in **HEAVY DUTY** applications, it is imperative that a gasoline to oil ratio of one part heavy duty outboard motor oil (SAE 30) to twenty-four parts of gasoline be used.

13. Starting Procedure

a. Make sure that the fuel tank has a sufficient amount of properly mixed fuel and that the vent screw located on the fuel tank filler cap or gauge is open.

b. Squeeze the prime bulb in the fuel line several times to pump fuel from the fuel tank to the engine. Continue to squeeze until prime bulb becomes firm.

c. Place gear shift lever in "NEUTRAL." Never Start Engine in Gear.

d. For a cold engine, pull out choke.

e. Turn twist grip throttle control to the "START" position.

f. Pull starter rope out slowly until the starter pinion gear engages with the flywheel, then give the rope a smooth, rapid, even pull. The engine should start on the second or third pull. If the engine does not start, recheck steps a. through e. above. However, when starting for the first time, several additional pulls

on the starter may be required in order to initially prime the engine.

14. When Engine Starts

Push choke rod in and allow engine to warm up. If engine "pops" and begins to stall, choke momentarily until it runs smoothly.

15. Gear Shift

The engine is equipped with a gear shift control to provide operation in "Forward," "Neutral" and "Reverse" gear. If the engine is not running, "DO NOT FORCE THE SHIFT LEVER." Never shift with engine speed control set above "Shift" position. The gear shift mechanism will not disengage from forward or reverse gear to neutral at speeds above this setting.

16. Forward

To go forward:

a. Turn twist grip throttle control so that pointer on the handle is at the "SHIFT" position on grip.

b. Move shift lever to "FORWARD."

c. Advance throttle control.

17. Reverse

To go in reverse:

a. Turn twist grip throttle control so that the pointer on the handle is at the "SHIFT" position of grip.

b. Move shift lever to "REVERSE."

c. Advance throttle control.

18. Stopping

Retard twist grip throttle control to "SHIFT" position and shift engine into "NEUTRAL." Turn twist grip throttle control to "STOP" position.

19. Tilting Engine

a. To tilt engine out of the water, first make sure it is pointing straight ahead, then grasping the engine by the handle on the back of the engine cover, pull the engine up and forward out of the water until the tilting

Figure PE 2-10. Page 13 of TM 5-2805-254-13

Source codes				Federal stock number	Description	Unit of issue	Quantity authorized	Quantity issued with equipment	Illustration	
Material	Source	Maintenance	Responsibility						Fig.	Item
	P	O		5910-668-1154	Condenser	EA	2			
	P	O		2920-618-2688	Spark Plug	EA	2			
	P	O		5315-043-1664	Pin Cotter	EA	1			
	P	O		5315-686-1517	Pin Propeller Shear	EA	1			
	P	O		5310-679-5838	Nut, Propeller	EA	1			
	P	O		2010-670-2242	Propeller	EA	1			
	P	O		5210-423-5585	Gage, Feeler	EA	1			
	P	O		5120-242-3917	Hammer Hand, Machinist ball peen 1 lb	EA	1			
	P	O		5120-223-7396	Pliers, Slip Joint, Straight Nose w/cotter 6"lg.	EA	1			
	P	O		5120-242-3433	Punch, drive pin, 1-1/2"lg. 1/8" dia of point.	EA	1			
	P	O		5120-234-8910	Screw driver, flat tip, plastic handle 5/16" w/6 in blade.	EA	1			
	P	O		5120-240-5328	Wrench open end, adjustable single head, 15/16 in. jaw opening 8 in lg.	EA	1			
	P	O		5120-357-8111	Wrench, spark plug, double head, hex 53/64 and 29/32 in opening, 5 in lg	EA	1			

Figure PE 2-11. Page 103 of TM 5-2805-254-13

Change in Force: C 1 and C 2

TM 5-2805-254-13
C 2

Change }
No. 2 }

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D.C., 1 August 1972

Operator, Organizational, and Direct
Support Maintenance Manual Including Repair
Parts and Special Tools List
OUTBOARD MOTOR, GASOLINE, 25 HORSEPOWER
(CHRYSLER OUTBOARD CORPORATION MODEL
G35691) FSN 2805-926-0894

TM 5-2805-254-13, 16 May 1967 is changed
as follows:

Page 15. Paragraph 23h is added as follows:

h. A list of maintenance and operating supplies required for initial operation of the outboard motor contained in table I.

TAGO 3841A

1

Figure PE 2-12. Page 1 of Change 2 to TM 5-2805-254-13

SECTION III. MAINTENANCE AND OPERATING SUPPLIES

(1) Component Application	(2) Federal Stock No.	(3) Description	(4) Quantity Required P / Initial Operation	(5) Quantity Required P/A Hrs Operation	(6) Notes
ENGINE STARTING C SYSTEM	9150-753-4649	Grease, graphite, Spec. Fed, VV-Q-2, 8 oz tube	1 tube		
MAGNETO CON- TROL BEARING					
TANKS, LINES & FITTINGS, HEADERS GASOLINE	9150-364-9219	Gasoline, automotive, Spec fed VV-Q-2	8 gal		1 pint tube oil mixed with 6 gallons of gasoline
TANKS, LINE AND FITTINGS, HEAD- ERS GASOLINE	9150-365-9435	Regular grade, bulk Oil, lubricating OE-30, 1 qt can	1 pt		
OPPOSED OUTPUT	9154-754-2635	Lubricating oil, gear GO-90, 1 qt can	1 qt		

Figure PE 2-13. Page 2 of Change 2 to TM 5-2805-254-13

APPENDIX III

BASIC ISSUE ITEMS LIST AND ITEMS TROOP INSTALLED OR AUTHORIZED

Section 1. INTRODUCTION

1. Scope

This appendix lists items required by the operator for operation of the outboard motor.

2. General

This list is divided into the following sections:

a. Basic Issue Items List—Section II. Not applicable.

b. Items Troop Installed or Authorized List—Section III. A list of items in alphabetical sequence, which at the discretion of the unit commander may accompany the outboard motor. These items are NOT subject to turn-in with the outboard motor when evacuated.

3. Explanation of Columns

The following provides an explanation of columns in the tabular list of Basic Issue Items List, Section II, and Items Troop Installed or Authorized, Section III.

a. Source, Maintenance, and Recoverability Code(s) (SMR):

(1) Source Code, indicates the source for the listed item. Source codes are:

Code	Explanation
P	Repair parts, special tools and test equipment supplied from GSA/DSA or Army supply system and authorized for use at indicated maintenance levels.
P2	Repair parts, special tools and test equipment which are procured and stocked for insurance purposes because the combat or military essentiality of the end item dictates that a minimum quantity be available in the supply system.

(2) Maintenance Code, indicates the lowest level of maintenance authorized to install the listed item. The maintenance level code is:

Code	Explanation
C	Crew/Operator

(3) Recoverability Code, indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are non-recoverable. Recoverability codes are:

Code	Explanation
R	Applied to repair parts (assemblies and components), special tools and test equipment which are considered economically repairable at direct and general support maintenance levels.
S	Repair parts, special tools, test equipment and assemblies which are economically repairable at DSU and GSU activities and which normally are furnished by supply on an exchange basis.

b. Federal Stock Number. This column indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. Description. This column indicates the Federal item name and any additional description of the item required.

d. Unit of Measure (U/M). A 2 character alphabetic abbreviation indicating the amount or quantity of the time upon which the allowances are based, e.g., ft, ea, pr, etc.

e. Quantity Furnished With Equipment (BIIL Only). This column indicates the quantity of an item furnished with the equipment.

f. Quantity Authorized (Items Troop Installed or Authorized Only). This column indicates the quantity of the item authorized to be used with the equipment.

g. Illustration (BIIL Only). This column is divided as follows:

(1) *Figure number.* Indicates the figure number of the illustration in which the item is shown.

(2) *Item number.* Indicates the callout number used to reference the item in the illustration.

Figure PE 2-14. Page 3 of Change 2 to TM 5-2805-254-13

Section III. ITEMS TROOP INSTALLED OR AUTHORIZED LIST

(1) SICR Code	(2) Federal stock No.	(3) Description Ref No. & Mfr code	(4) Unit of meas	(5) Qty Auth
PC	2905-679-8754	BRACKET, STEERING ASSEMBLY	EA	1
PC	7520-559-9618	CASE, MAINTENANCE AND OPER- ATING MANUAL	EA	1
PC		TANK ASSEMBLY, GASOLINE A77034-1 (78252)	EA	1

Page 105. Appendix IV. Repair Parts and
Special Tools is changed as follows:

Figure PE 2-15. Page 4 of Change 2 to TM 5-2805-254-13

Page	Line	Action	Source Maintenance and Recoverability Code	Federal Stock Number	Description	Unit of Issue	Quantity Incorporated in Unit	10 Day DS-02 Main Allowance	1 Year Allowance Per 100 Equipment/Contingency Planning Expenses	Depot Maint. Allowance Per 100 Equipments	Illustrations
			Source Main Main Main					1-2	3-12	13-15	
111	111	Ch col 1 add col 2	P O	2990-938-5443	SECTION III.—REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE GROUP 0107—ENGINE STARTING SYSTEM WASHER . . .						
115	0437	Ch col 2	P O	2010-781-4257	GROUP 0901—PROPELLER SHAFT BEARINGS AND PROPELLER PROPELLER . . .						
119	30	Ch col 2	P	6305-012-0457	SECTION V. REPAIR PARTS FOR DIRECT SUPPORT MAIN- TENANCE 0101—CRANKCASE BLOCK, CYLINDER HEAD SCREW . . .						
121	111	Ch col 1 add col 2	P O	2990-938-5443	0107—ENGINE STARTING SYSTEM WASHER . . .						
129	0437	Ch col 2		2010-781-4257	0901—PROPELLER SHAFT, BEARING AND PROPELLER PROPELLER . . .						

TM 5-2805-254-13

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

*Change 1
Posted
30 JUN 86
FHB*

OPERATOR, ORGANIZATIONAL, AND
DIRECT SUPPORT MAINTENANCE MANUAL
INCLUDING REPAIR PARTS AND
SPECIAL TOOL LISTS

OUTBOARD MOTOR, GASOLINE, 25
HORSEPOWER (CHRYSLER OUTBOARD
CORPORATION MODEL G35691)
FSN 2805-926-0894

HEADQUARTERS, DEPARTMENT OF THE ARMY
MAY 1967

Figure PE 2-17. Cover of TM 5-2805-254-13

f. Clean, dry, and inspect spark plugs before reinstalling them in motor.

g. Start motor as instructed and run for at least one hour to dry parts thoroughly.

24. Prolonged Storage

Before storing engine for prolonged periods, it must be protected against rust and possible damage from freezing temperatures. To prepare engine for storage:

a. If the engine has been operated in salt water, flush out the cooling system with fresh water prior to storage. To do this, run the boat in a body of fresh water or remove the engine from the boat and run in a test tank.

b. Run the engine until it is thoroughly warmed-up.

c. When storing the engine for any period of time, run the engine until it is thoroughly warmed-up. Place gear shift in "Neutral" and allow engine to run at a fast idle. Remove fuel line from fuel tank or engine. Using a rust preventative oil, rapidly inject the oil into the carburetor air intakes for a period of ten to twenty seconds until the engine stops. The

above procedures will coat the interior of the crankcase with a protective coating of oil.

d. When the unit has been removed from the water or test tank, pull the starter several times to expel all water from the cooling system. Any water which is left in the cylinder may freeze and cause extensive damage.

e. Drain all fuel from lines and carburetor.

f. Remove spark plugs. Put an ounce or two of SAE 30 Engine Oil into each spark plug hole. Turn the engine over several times to distribute the oil. This will lubricate the pistons, rings and cylinder wall. Clean and regap spark plugs and install.

g. Drain all grease from lower gear housing. Refill gear housing.

h. Lubricate all moving parts as outlined under "Lubrication."

i. Wipe engine down with a clean rag. Apply an automotive, type wax to protect the finish and prevent rust or corrosion.

j. Remove the propeller and apply a coating of grease on propeller shaft. Reinstall propeller.

k. Store engine in a dry, well ventilated area. Store in an upright position.

Figure PE 2-18. Page 15 of TM 5-2805-254-13

APPENDIX III

BASIC ISSUE ITEMS LIST AND MAINTENANCE AND OPERATING SUPPLIES

Section I. INTRODUCTION

1. General

Section II lists the accessories, tools, and publications required for maintenance and operation by the operator, initially issued with, or authorized for the 25 horsepower outboard motor. Section III lists the maintenance and operating supplies required for initial operation.

2. Explanation of Columns Contained in Section II

a. *Source Codes.* The information provided in each column is as follows:

- (1) *Material.* This column is left blank. For identification of agencies assigned supply responsibility for parts, refer to appropriate Federal and Department of Army supply catalogs.

- (2) *Source.* The selection status and source of supply for each part, are indicated by the following code symbol:

P—applied to high-mortality repair parts which are stocked in or supplied from the Army supply system, and authorized for use at indicated maintenance levels.

- (3) *Maintenance.* The lowest maintenance level authorized to use, stock, install, or manufacture the part is indicated by the following code symbol:

O—Organizational maintenance

- (4) *Recoverability.* Repair parts and/or tool and equipment items that are re-

coverable are indicated by one of the following code symbols:

- (a) R—applied to repair parts and assemblies which are economically repairable at direct and general support maintenance activities and normally are furnished by supply on an exchange basis.
- (b) T—applied to high-dollar value recoverable repair parts which are subject to special handling and are issued on an exchange basis. Such repair parts normally are repaired or overhauled at depot maintenance facilities.
- (c) U—applied to repair parts specifically selected for salvage by reclamation units because of precious metal content, critical materials, high-dollar value reusable casings, castings, and the like.

Note. When no code is shown in the recoverability column the part is considered expendable.

b. *Federal Stock Number.* When a Federal stock number is available for a part, it will be shown in this column, and will be used for requisitioning purposes.

c. *Description.*

- (1) The item name and a brief description of the part are shown.
- (2) A five-digit Federal supply code for manufacturers and/or other supply services is shown in parentheses followed by the manufacturer's part number. This number shall be used for requisitioning purposes when no

Figure PE 2-19. Page 101 of TM 5-2805-254-13

LINE NO.	SOURCE, MAINT AND RECOV. CODE	FEDERAL STOCK NUMBER	DESCRIPTION	UNIT OF MEASURE		QTY INC IN UNIT PACK	QTY INC IN UNIT	IS DAY ORG. MAINT. SLR.				ILLUSTRATION	
				MANUFACTURER'S CODE	PART NUMBER			(14)	(13)	(12)	(11)	(10)	(9)
SECTION 111 - REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE													
GROUP 01 - ENGINE													
0101 - CRANKCASE, BLOCK, CYLINDER HEAD													
0001			SCREW, HEXAGON HEAD, 1/4-20 x 2 1/8										
0002			COVER, THERMOSTAT										
0003			FITTING, DRAIN										
0004			HOSE, DRAINING FAS. FROM FSH 1/2-20-341-1116 MIL-H-1938										
0005			HOSE, DRAINING FAS. FROM FSH 1/2-20-341-1116 MIL-H-1938										
0006			FITTING, DRAIN										
0007			FITTING, DRAIN										
0008			ELBOW, TRANSFER PORT COVER										
0107 - ENGINE STARTING SYSTEM													
0009			STARTER SPOOL ASSEMBLY										
0010			GEAR, STARTER PINION										
0011			SPRING DRIVE, STARTER REWIND										
0012			SPRING, STARTER PINION										
0013			SPRING, STARTER REWIND										
0014			GUIDE POST, STARTER SPRING										
0015			RETAINER, STARTER REWIND SPRING										
0016			ROPE, STARTER										
0017			EXTENSION, STARTER SPRING RETAINER										
0018			GUIDE, STARTER ROPE										
0019			HANDLE GUIDE, STARTER ROPE										
0020			PIAL NUT, 7/8-11										
0021			SCREW, FILLISTER HEAD, 1/4-20 x 3/8										
0022			WASHER, SPRING BOWD										
0023			BRACKET, STARTER MOUNTING										
0024			PIN, STARTER PINION										
0025			HANDLE, STARTER ROPE										
0026			PLUG, STARTER ROPE HANDLE										
0027			CAPSCREW, FILLISTER HEAD, 1/4-20 x 7/8										
0028			CAPSCREW, FILLISTER HEAD, 5/16 x 1 1/2										

111

Figure PE 2-20. Page 111 of TM 5-2805-254-13

LINE NO.	(1) SOURCE, MAINT. AND RECV. CODE		(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) UNIT OF ISSUE		(5) QTY INC. IN UNIT	(6) IS DAY ORG. MAINT. ALW.				(7) ILLUSTRATION		
	(a) SOURCE	(b) MAINT. AND RECV. CODE			CODE	PART NUMBER		(a) 1-4	(b) 5-8	(c) 9-12	(d) 13-16	(e) P.O. NO.	(f) ILLUSTRATION	
0333A				GROUP 07 - TRANSMISSION										
0333B				0702 - OPPOSED OUTPUT										
0333C	X2	0	4730-618-7427	PLUG, MACHINE THREADS; GEAR HOUSING	CA	9333A 20109	2					71	6	
0333D	X2	0	5310-618-3364	WASHER; GEAR HOUSING PLUG	CA	9333A 6001	2					71	5	
0333E	X2	0		DECAL, SHIFT	CA	96123 306397	1							
0333F	X2	0		NUT, ELASTIC STOP; 1/4-20	CA	72562 7008	1					62	60	
0333G	X2	0		WASHER, GEAR SHIFT	CA	72512 117614	1					62	54	
0433A				GROUP 09 - PROPELLER AND PROPELLER SHAFTS										
0433B				0901 - PROPELLER SHAFT, BEARINGS AND PROPELLER										
0433C				PROPELLER	CA	9333A 4305263	1					71	36	
0433D	P	0	2010-670-2242	SEAL, PROPELLER SHAFT	CA	9333A 60312	1					71	34	
0433E	P	0	5310-618-5133	NUT, PROPELLER SHAFT	CA	9333A 94094-1	1					71	32	
0433F	P	0	5310-670-2818	PIN, PROPELLER SHAFT	CA	9333A 90101-1	1					71	31	
0433G	P	0	5315-662-1517	COTTER PIN	CA	65029 1027	1					71	35	
0533A				GROUP 18 - BODY										
0533B				1801 - BODY ASSEMBLY										
0533C	X2	0		COVER, ENGINE	CA	9333A 4305712	1					62	72	
0533D	X1	0		RETAINER, ENGINE COVER	CA	9333A 272269	1					62	81	
0533E	X2	0		TILT HANDLE	CA	9333A 272269	1					62	82	
0533F	X2	0		FASTENER	CA	9333A 272269	2					62	83	
0533G	X2	0		HANDLE, CARRYING REAR	CA	9333A 272269	1					62	84	
0533H	X2	0		SCREW, FILLISTER HEAD; 1/4-20 x 7/8	CA	9333A 272269	1					62	85	
0533I	X2	0		SCREW, FILLISTER HEAD; 1/4-20 x 1/4	CA	9333A 272269	2					62	86	
0533J	X2	0		SCREW, HEXAGON SLOTTED HEAD; 1/4-20 x 9/16	CA	9333A 272269	2					62	87	
0533K	X2	0		BRACKET, SUPPORT PLATE, PORT	CA	9333A 272269	1					62	88	
0533L	X2	0		LATCH SHAFT	CA	9333A 272269	1					62	89	
0533M	X2	0		PACKING, SUPPORT PLATE	CA	9333A 272269	1					62	90	
0533N	X2	0			CA	9333A 191752-3	1					62	90	

15

Figure PE 2-21. Page 115 of TM 5-2805-254-13

LINE NO.	HOUSE MAINT AND SUP CODE	FEDERAL STOCK NUMBER	DESCRIPTION	UNIT OF ISSUE	QTY IN UNIT	30-DAY DS MAINT. ALW.			ILLUSTRATION		
						1-70	1-70	1-70	FIG. NO.	FIG. NO.	
											MANUFACTURER'S PART NUMBER
0001	X1		PIN, DOWEL	CA	2					66	66
0002	X1		PLUG, WELCH	CA	1					66	66
0003	X2	2805-947-7371	COVER, CYLINDER DRAIN	CA	1					66	66
0004	X2		CYLINDER HEAD	CA	1					66	66
0005	X2		COVER, EXHAUST PORT	CA	1					66	66
0006	X2		PLATE, EXHAUST	CA	1					66	66
0007	X2		COVER, EXHAUST WATER JACKET	CA	1					66	66
0008	X2		SCREW, FILLISTER HEAD, 10-24 X 9/16	CA	12					66	66
0009	X2		SCREW, FILLISTER HEAD, 10-24 X 1 1/16	CA	2					66	66
0010	X2		SCREW, FLAT HEAD, 1/4-20 X 1	CA	2					66	66
0011	X2	5305-012-0631	CAPSCREW, HEXAGON HEAD, 3/8-16 X 2 1/2	CA	3					66	66
0012	X2	5315-018-0131	SCREW, HEXAGON HEAD, 1/4-20 X 2 1/8	CA	3					66	66
0013	X2		SCREW, HEXAGON HEAD, 1/4-20 X 2 1/8	CA	3					66	66
0014	X2		SCREW, HEXAGON HEAD, 1/4-20 X 2 1/8	CA	3					66	66
0015	X2	5305-286-1498	SCREW, HEXAGON HEAD, 1/4-20 X 1	CA	6					66	66
0016	X2	5305-018-7077	SCREW, HEXAGON HEAD, 1/4-20 X 1	CA	6					66	66
0017	X2		9/16	CA	10					66	66
0018	X2		CAPSCREW, HEXAGON HEAD	CA	9					66	66
0019	X2		WASHER, PLAIN	CA	9					66	66
0020	X2		WASHER, PLAIN	CA	9					66	66
0021	X2		COVER, THERMOSTAT	CA	1					66	66
0022	X2		COVER, TRANSFER PORT	CA	1					66	66
0023	X2		WELD PLATE, CYLINDER DRAIN	CA	1					66	66
0024	X2	2805-675-5133	WELD STOP, CYLINDER DRAIN	CA	1					66	66
0025	X2	2805-675-5133	WELD STOP, CYLINDER DRAIN	CA	1					66	66
0026	X2	5335-619-8111	SCREEN, CYLINDER DRAIN	CA	1					66	66
0027	X2		WASHER, PLAIN	CA	1					66	66
0028	X2		FITTING, DRAIN	CA	1					66	66
0029	X2		HOSE, DRAINING, 1/2-20-341-1116 MIL-H-7238	CA	1					66	66
0030	X2		HOSE, DRAINING, 1/2-20-341-1116 MIL-H-7238	CA	1					66	66
0031	X2		Y FITTING, DRAIN HOSE	CA	1					66	66
0032	X2		SCREW, V-SHAPED LOCKWASHER, HEXAGON HEAD, 1/4-20 X 3/8	CA	1					66	66
0033	X2		NUT, ELASTIC STOP, 5/16-18	CA	1					66	66
0034	X2		FITTING, DRAIN	CA	1					66	66
0035	X2		ELBOW, TRANSFER PORT COVER	CA	1					66	66
0036	X2		SCREW, PAN HEAD, 1/4-20 X 3/16	CA	1					66	66
0037	X2		0102 - CRANKSHAFT	CA	1					66	66
0038	X2		CRANKSHAFT, W/UPPER BEARING	CA	1					66	66
0039	X2	2805-675-5133	NUT, HEXAGON	CA	1					66	66
0040	X2	5310-286-0982	BEARING CASE, CRANKSHAFT	CA	1					66	66
0041	X2	2805-675-5133	SCREW, FLAT HEAD, 1/4-20 X 7/8	CA	1					66	66
0042	X2	5305-013-3659	BEARING RACE, CRANKSHAFT CENTER MAIN	CA	1					66	66
0043	X2			CA	1					66	66
0044	X2			CA	1					66	66
0045	X2			CA	1					66	66
0046	X2			CA	1					66	66
0047	X2			CA	1					66	66
0048	X2			CA	1					66	66
0049	X2			CA	1					66	66
0050	X2			CA	1					66	66
0051	X2			CA	1					66	66
0052	X2			CA	1					66	66
0053	X2			CA	1					66	66
0054	X2			CA	1					66	66
0055	X2			CA	1					66	66
0056	X2			CA	1					66	66
0057	X2			CA	1					66	66
0058	X2			CA	1					66	66
0059	X2			CA	1					66	66
0060	X2			CA	1					66	66
0061	X2			CA	1					66	66
0062	X2			CA	1					66	66
0063	X2			CA	1					66	66
0064	X2			CA	1					66	66
0065	X2			CA	1					66	66

Figure PE 2-22. Page 119 of TM 5-2805-254-13

LINE NO.	(1) SOURCE, MAINT. AND RECOV. CODE			(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION	(4) MANUFACTURER'S		(5) UNIT OF ISSUE	(6) QTY. INC. IN UNIT	(7) 30-DAY DL. MAINT. ALW.	(8) ILLUS. VARIATION	
	(1a) SOURCE	(1b) MAINT.	(1c) RECOV.			CODE	PART NUMBER				(8a) #1	(8b) #2
D102	P	0	0	2990-670-3434	SPRING, STARTER REVING	91314	901970	CA	1	1	1	1
D103	X2	0	0		GUIDE POST, STARTER SPRING	91314	901710	CA	1	1	1	1
D104	X2	0	0	2990-679-3915	RETAINER, STARTER REVING SPRING	91314	191717	CA	1	1	1	1
D105	P	0	0		ROPE, STARTER	91314	4001232	CA	1	1	1	1
D106	X2	0	0		EXTENSION, STARTER SPRING RETAINER	91314	191971	CA	1	1	1	1
D107	X2	0	0		GUIDE, STARTER ROPE	91314	191455-1	CA	1	1	1	1
D108	X2	0	0		HANDLE GUIDE, STARTER ROPE	91314	40023-2	CA	1	1	1	1
D109	.	0	0	2310-207-0414	PAL HUT, 7/8-14	71122	1031	CA	1	1	1	1
D110	X2	0	0	5305-013-1236	SCREW, FILLISTER HEAD, 1/4-20 x 3/8	70322	1031	CA	1	1	1	1
D111	X2	0	0		WASHER, SPRING BOWD	73207	6041	CA	1	1	1	1
D112	X2	0	0		BRACKET, STARTER MOUNTING	91314	400427	CA	1	1	1	1
D113	P	0	0	2312-680-0599	PIN, STARTER PINION	91314	40425	CA	1	1	1	1
D114	P	0	0	2990-333-1709	HANDLE, STARTER ROPE	16365	21132-1	CA	1	1	1	1
D115	X2	0	0		PLUG, STARTER ROPE HANDLE	16365	21132	CA	1	1	1	1
D116	X2	0	0	2305-013-2268	CAPSCREW, FILLISTER HEAD, 1/4-20 x 7/8	93336	1111	CA	1	1	1	1
D117	X2	0	0	5305-013-2345	SCREW, FILLISTER HEAD, 5/16 - 18 x 1 1/2	77322	1047	CA	1	1	1	1
D118	X2	0	0		SPACER, STARTER BRACKET	91314	60529	CA	1	1	1	1
D119	X2	0	0		SCREW, FILLISTER HEAD, 5/16-18 x 1 1/2	91314	1124	CA	1	1	1	1
D120	X2	0	0		WASHER, PLAIN	02279	6012	CA	1	1	1	1
D121	X2	0	0		LOCKWASHER, EXTERNAL TOOTH	93336	8060	CA	1	1	1	1
D121A					GROUP 03 - FUEL SYSTEM							
D122					0301 - CARBURETOR							
D123	P	0	0	2910-904-7371	CARBURETOR, ASSEMBLY	70480	207061	CA	1	1	1	1
D124	X2	0	0		ADAPTER, CARBURETOR	51314	60167	CA	1	1	1	1
D125	P	0	0	2910-618-4660	GASKET, CARBURETOR MOUNTING	02114	40024-1	CA	1	1	1	1
D126	X2	0	0		DEFLECTOR PLATE	61371	60404	CA	1	1	1	1
D127	X2	0	0		STUD, CARBURETOR	57261	40009	CA	1	1	1	1
D128	X1	0	0		PLUG, SCREW, BODY CHANNEL	70480	02375	CA	1	1	1	1
D129	X1	0	0		SCREW AND LOCKWASHER	70480	016270	CA	1	1	1	1
D130	X1	0	0		CHOKE SHAFT AND LEVER	70480	013119	CA	1	1	1	1
D131	X1	0	0		CHOKE SHUTTER	70480	012250	CA	1	1	1	1
D132	X1	0	0		SCREW AND WASHER, CHOKE SHUTTER	70480	00942	CA	1	1	1	1
D133	X1	0	0		CHOKE RELIEF VALVE	70480	012251	CA	1	1	1	1
D134	X1	0	0		FUEL BOWL	70480	013225	CA	1	1	1	1
D135	X1	0	0		DRAIN SCREW, FUEL BOWL	70480	00943	CA	1	1	1	1
D136	X1	0	0		PLUG SCREW, FUEL BOWL	70480	01102	CA	1	1	1	1
D137	X1	0	0		THROTTLE SHAFT AND LEVER	70480	013223	CA	1	1	1	1
D138	X1	0	0		THROTTLE SHUTTER	70480	013223	CA	1	1	1	1
D139	X2	0	0		SCREW, FLAT HEAD, 1/4-20 x 5/8	70480	013223	CA	1	1	1	1
D140	X1	0	0		GASKET, CARBURETOR ADAPTER	70480	013223	CA	1	1	1	1
D141	X2	0	0		CONNECTOR, GAS LINE	70480	013223	CA	1	1	1	1
D142	X2	0	0		SPRING, CHOKE SHAFT RETURN	70480	013223	CA	1	1	1	1
D143	X2	0	0		SPRING, CHOKE RELIEF VALVE	70480	013223	CA	1	1	1	1

Figure PE 2-23. Page 121 of TM 5-2805-254-13

LINE NO.	SOURCE, MAINT. AND RECOV. CODE		FEDERAL STOCK NUMBER	DESCRIPTION	UNIT OF ISSUE	QTY INC IN UNIT	2-DAY DS MAINT. ALN.			ILLUS. TRATION	
	SOURCE	MAINT.					(4)	(5)	(6)	(7)	
											(1)
MANUFACTURER'S											
CODE PART NUMBER											
04354	P	P	2010-670-2282	GROUP 09 - PROPELLER AND PROPELLER SHAFTS	EA	1	1	1	1	71	
04355	P	P	2010-670-2281	0901 - PROPELLER SHAFT, BEARINGS	EA	1	1	1	1	71	
04356	P	P	2005-903-350A	AND PROPELLER	EA	1	1	1	1	71	
04357	P	P	2330-618-6359	PROPELLER	EA	1	1	1	1	71	
04358	P	P	2330-618-6358	SHAFT, PROPELLER	EA	1	1	1	1	71	
04359	P	P	2330-618-6357	BEARING CASE, PROPELLER SHAFT	EA	1	1	1	1	71	
04360	P	P	2330-618-6356	SEAL, PROPELLER SHAFT	EA	1	1	1	1	71	
04361	P	P	2330-618-6355	SEAL, PROPELLER SHAFT	EA	1	1	1	1	71	
04362	P	P	2330-618-6354	NUT, PROPELLER SHAFT	EA	1	1	1	1	71	
04363	P	P	2330-618-6353	PIN, PROPELLER SHAFT	EA	1	1	1	1	71	
04364	P	P	2330-618-6352	SEAL, BEARING CASE	EA	1	1	1	1	71	
04365	P	P	2330-618-6351	COTTER PIN	EA	1	1	1	1	71	
04366	P	P	2330-618-6350	BEARING, PROPELLER SHAFT	EA	1	1	1	1	71	
04367	P	P	2330-618-6349	CAPSCREW, HEXAGON SOCKET HEAD, 5/16-18 x 9/16	EA	1	1	1	1	71	
04368	P	P	2330-618-6348	GROUP 10 - STEERING	EA	1	1	1	1	71	
04369	P	P	2330-618-6347	GROUP 11 - MARINE STEERING	EA	1	1	1	1	71	
04370	P	P	2330-618-6346	FRICITION SHOE	EA	1	1	1	1	71	
04371	P	P	2330-618-6345	RIMPIN	EA	1	1	1	1	71	
04372	P	P	2330-618-6344	PIVOT TUBE, STEERING HANDLE	EA	1	1	1	1	71	
04373	P	P	2330-618-6343	SCREW, SLOTTED OVAL HEAD, 1/4-20 x 3/8	EA	1	1	1	1	71	
04374	P	P	2330-618-6342	SCREW, FILLISTER HEAD, 10-24 x 3/4	EA	1	1	1	1	71	
04375	P	P	2330-618-6341	SCREW, FILLISTER HEAD, 10-24 x 5/16	EA	1	1	1	1	71	
04376	P	P	2330-618-6340	NUT, HEXAGON, 7/8-14	EA	1	1	1	1	71	
04377	P	P	2330-618-6339	PIN, SPRING	EA	1	1	1	1	71	
04378	P	P	2330-618-6338	PIN, GROOVE	EA	1	1	1	1	71	
04379	P	P	2330-618-6337	KEY, WOODRUFF	EA	1	1	1	1	71	
04380	P	P	2330-618-6336	GREASE FITTING	EA	1	1	1	1	71	
04381	P	P	2330-618-6335	STEERING HANDLE	EA	1	1	1	1	71	
04382	P	P	2330-618-6334	ADJUSTING ARM, FRICTION SHOE	EA	1	1	1	1	71	
04383	P	P	2330-618-6333	SCREW, HEXAGON SLOTTED HEAD, 1/4-20 x 1/2	EA	1	1	1	1	71	
04384	P	P	2330-618-6332	PLATE, FRICTION SHOE	EA	1	1	1	1	71	
04385	P	P	2330-618-6331	LOCKWASHER, SPRING	EA	1	1	1	1	71	
04386	P	P	2330-618-6330	BRACKET, STEERING	EA	1	1	1	1	71	
04387	P	P	2330-618-6329	GREASE FITTING	EA	1	1	1	1	71	
04388	P	P	2330-618-6328	LOCKWASHER, SPRING	EA	1	1	1	1	71	
04389	P	P	2330-618-6327	WASHER, PLAIN	EA	1	1	1	1	71	
04390	P	P	2330-618-6326	GROUP 15 - FRAME	EA	1	1	1	1	71	
04391	P	P	2330-618-6325	1501 - FRAME ASSEMBLY	EA	1	1	1	1	71	
04392	P	P	2330-618-6324	BRACKET, STEERN	EA	1	1	1	1	71	
04393	P	P	2330-618-6323		EA	1	1	1	1	71	
04394	P	P	2330-618-6322		EA	1	1	1	1	71	
04395	P	P	2330-618-6321		EA	1	1	1	1	71	
04396	P	P	2330-618-6320		EA	1	1	1	1	71	
04397	P	P	2330-618-6319		EA	1	1	1	1	71	
04398	P	P	2330-618-6318		EA	1	1	1	1	71	
04399	P	P	2330-618-6317		EA	1	1	1	1	71	
04400	P	P	2330-618-6316		EA	1	1	1	1	71	
04401	P	P	2330-618-6315		EA	1	1	1	1	71	
04402	P	P	2330-618-6314		EA	1	1	1	1	71	
04403	P	P	2330-618-6313		EA	1	1	1	1	71	
04404	P	P	2330-618-6312		EA	1	1	1	1	71	
04405	P	P	2330-618-6311		EA	1	1	1	1	71	
04406	P	P	2330-618-6310		EA	1	1	1	1	71	
04407	P	P	2330-618-6309		EA	1	1	1	1	71	
04408	P	P	2330-618-6308		EA	1	1	1	1	71	
04409	P	P	2330-618-6307		EA	1	1	1	1	71	
04410	P	P	2330-618-6306		EA	1	1	1	1	71	
04411	P	P	2330-618-6305		EA	1	1	1	1	71	
04412	P	P	2330-618-6304		EA	1	1	1	1	71	
04413	P	P	2330-618-6303		EA	1	1	1	1	71	
04414	P	P	2330-618-6302		EA	1	1	1	1	71	
04415	P	P	2330-618-6301		EA	1	1	1	1	71	
04416	P	P	2330-618-6300		EA	1	1	1	1	71	
04417	P	P	2330-618-6299		EA	1	1	1	1	71	
04418	P	P	2330-618-6298		EA	1	1	1	1	71	
04419	P	P	2330-618-6297		EA	1	1	1	1	71	
04420	P	P	2330-618-6296		EA	1	1	1	1	71	
04421	P	P	2330-618-6295		EA	1	1	1	1	71	
04422	P	P	2330-618-6294		EA	1	1	1	1	71	
04423	P	P	2330-618-6293		EA	1	1	1	1	71	
04424	P	P	2330-618-6292		EA	1	1	1	1	71	
04425	P	P	2330-618-6291		EA	1	1	1	1	71	
04426	P	P	2330-618-6290		EA	1	1	1	1	71	
04427	P	P	2330-618-6289		EA	1	1	1	1	71	
04428	P	P	2330-618-6288		EA	1	1	1	1	71	
04429	P	P	2330-618-6287		EA	1	1	1	1	71	
04430	P	P	2330-618-6286		EA	1	1	1	1	71	
04431	P	P	2330-618-6285		EA	1	1	1	1	71	
04432	P	P	2330-618-6284		EA	1	1	1	1	71	
04433	P	P	2330-618-6283		EA	1	1	1	1	71	
04434	P	P	2330-618-6282		EA	1	1	1	1	71	
04435	P	P	2330-618-6281		EA	1	1	1	1	71	
04436	P	P	2330-618-6280		EA	1	1	1	1	71	
04437	P	P	2330-618-6279		EA	1	1	1	1	71	
04438	P	P	2330-618-6278		EA	1	1	1	1	71	
04439	P	P	2330-618-6277		EA	1	1	1	1	71	
04440	P	P	2330-618-6276		EA	1	1	1	1	71	
04441	P	P	2330-618-6275		EA	1	1	1	1	71	
04442	P	P	2330-618-6274		EA	1	1	1	1	71	
04443	P	P	2330-618-6273		EA	1	1	1	1	71	
04444	P	P	2330-618-6272		EA	1	1	1	1	71	
04445	P	P	2330-618-6271		EA	1	1	1	1	71	
04446	P	P	2330-618-6270		EA	1	1	1	1	71	
04447	P	P	2330-618-6269		EA	1	1	1	1	71	
04448	P	P	2330-618-6268		EA	1	1	1	1	71	
04449	P	P	2330-618-6267		EA	1	1	1	1	71	
04450	P	P	2330-618-6266		EA	1	1	1	1	71	
04451	P	P	2330-618-6265		EA	1	1	1	1	71	
04452	P	P	2330-618-6264		EA	1	1	1	1	71	
04453	P	P	2330-618-6263		EA	1	1	1	1	71	
04454	P	P	2330-618-6262		EA	1	1	1	1	71	
04455	P	P	2330-618-6261		EA	1	1	1	1	71	
04456	P	P	2330-618-6260		EA	1	1	1	1	71	
04457	P	P	2330-618-6259		EA	1	1	1	1	71	
04458	P	P	2330-618-6258		EA	1	1	1	1	71	
04459	P	P	2330-618-6257		EA	1	1	1	1	71	
04460	P	P	2330-618-6256		EA	1	1	1	1	71	
04461	P	P	2330-618-6255		EA	1	1	1	1	71	
04462	P	P	2330-618-6254		EA	1	1	1	1	71	
04463	P	P	2330-618-6253		EA	1	1	1	1	71	
04464	P	P	2330-618-6252		EA	1	1	1	1	71	
04465	P	P	2330-618-6251		EA	1	1	1	1	71	
04466	P	P	2330-618-6250		EA	1	1	1	1	71	
04467	P	P	2330-618-6249		EA	1	1	1	1	71	
04468	P	P	2330-618-6248		EA	1	1	1	1	71	
04469	P	P	2330-618-6247		EA	1	1	1	1	71	
04470	P	P	2330-618-6246		EA	1	1	1	1	71	

Figure PE 2-24. Page 129 of TM 5-2805-254-13

LESSON 2

PRACTICE EXERCISE

ANSWER KEY AND FEEDBACK

<u>Item</u>	<u>Correct Answer and Feedback</u>
1.	B. basic (Part A, paragraph 2-1)
2.	D. rescinded (Part A, paragraph 2-1)
3.	B. posting (Part A, paragraph 2-1)
4.	C. a revision (Part A, paragraph 2-1)
5.	D. A and B (amendments and changes) (Part A, paragraph 2-1)
6.	C. line out the changed text (Part A, paragraph 2-2)
7.	A. numerically ascending order (Part B, paragraph 2-3)
8.	D. slip-on label holders (Part B, paragraph 2-3)
9.	D. black-lead pencil (Part A, paragraph 2-2)
10.	B. frequently (Part A, Introduction paragraph)
11.	You should have posted the documents as shown in Figures PE 2-25 through PE 2-28, pages 2-41 through 2-44.
12.	You should have posted the documents as shown in Figures PE 2-29 through PE 2-33, pages 2-45 through 2-49.
13.	You should have posted the documents as shown in Figures PE 2-34 through PE 2-41, pages 2-50 through 2-57.

14. You should have arranged the TMs as shown below:

TM 5-350
TM 5-2410-214-12
TM 5-2410-233-34
TM 5-2410-234-14 & P1
TM 5-3805-201-35P
TM 5-3805-237-20P
TM 5-3810-289-12
TM 5-3895-353-14 & P
TM 5-4310-451-14 & P
TM 11-6625-366-10

Remember, file publications by type in numerically ascending order. When letters are included in the publication's number, they are filed numerically-alphabetically in ascending order. (Part B, paragraph 2-3)

9 January 1986

Decorations, Awards and Honors
INCENTIVE AWARDS

Posted
10 FEB 86
RJB

Issue of further supplements to this regulation by subordinate Commanders is prohibited unless specifically approved by HQ. Instructions contained herein apply to all elements of the command including tenants, except United States Army Medical Department Activity and Dental Activity.

AR 672-20, 1 June 1982, as supplemented by TRADOC Supplement 1, 30 Jul 82, is further supplemented as follows:

Page 1-3, paragraph 1-8. Policy. Add to subparagraph k.

Monetary awards, except for Special Act or Service, will not be approved after it is known that an employee intends to retire or resign. A letter of appreciation may be used to recognize the performance and services of such employees. The retirement certificate signed by the Commanding General is designed to show official appreciation for a retiring individual. Supervisors may, however, also issue letters of appreciation or other informal types of recognition.

Page 1-4, paragraph 1-11. Responsibilities. Add subparagraphs e(5).

(5) The Commanding General will present suggestion awards in excess of \$350 and honorary awards approved by higher headquarters. The approving authority will determine the level of management at which the Special Act or Service Award will be presented.

Page 1-4, paragraph 1-11. Responsibilities. Add subparagraph f(5).

(5) To assist in carrying out administrative responsibilities, Directors, Commanders and Personal and Special Staff Officers will appoint an Incentive Awards Program Coordinator. The name of the coordinator will be furnished to the Civilian Personnel Officer.

Page 1-5, paragraph 1-12. Organization of Incentive Awards Committee. Add subparagraph b(8).

(8) The Chairman of the Incentive Awards Committee will be appointed by the Commanding General. Incumbents of the positions listed below comprise the voting membership of the Incentive Awards Committee. An alternate Committee member may be designated when the incumbent is not able to attend the Incentive Awards Committee meeting.

- (a) Installation Stock Fund Manager, Directorate of Logistics (DOL).
- (b) Management Analyst, Directorate of Resource Management (DRM).
- (c) Environment Engineer, Directorate of Engineering and Housing (DEN).
- (d) Chief, Management-Employee Relations, Civilian Personnel Office (CPO).
- (e) Installation Occupational Safety and Health Manager, Directorate of Personnel and Community Activities (DPCA).
- (f) Sergeant Major, 1st Training Support Brigade.
- (g) Sergeant Major, 2d Training Brigade (OSUT).
- (h) Sergeant Major, 3d Basic Training Brigade.
- (i) Sergeant Major, 4th Training Brigade.
- (j) Union representatives as provided in negotiated agreements.
- (k) Nonvoting Member, Incentive Awards Administrator (CPO).

*This supplement supersedes Supplement 1, 11 Jun 84, to AR 672-20.

Figure PE 2-25. Supplement 1 to AR 672-20

They will both identify subjects or problems in which constructive ideas are desired and provide positive support to the Suggestion Program. Supervisors who have demonstrated unusual ability to stimulate participation will be given (letters of commendation or other) appropriate recognition.

g. Both an honorary and a monetary award may be granted to civilian and military personnel for the same act or achievement if the criteria for each award are met. The same act or achievement, however, cannot form the basis for more than one type of monetary or DA honorary award.

h. Performance awards (Quality Increases, Sustained Superior Performance, and other honorary awards) are supervisor initiated and awarded at the discretion of management when applicable criteria provided in this regulation are met. Failure to receive such an award is not a basis for a grievance or appeal.

i. Management actions in connection with this regulation are subject to grievance procedures only when a violation of the applicable provisions has occurred.

j. Adverse actions based upon employee performance or conduct or Equal Employment Opportunity (EEO) investigations may be pending on employees nominated for honorary or cash performance awards. If so, action on the awards will be suspended until a determination can be made that granting of the award is not inconsistent with the proposed adverse action or final EEO determination and would not jeopardize the merits of the proposed action. This does not apply to awards for adopted suggestions.

k. The intent of the legislation establishing this program is to provide monetary or honorary recognition for civilian officers or employees of the Government who, by their suggestions, inventions, or superior accomplishments, contribute to the economy, efficiency, or other improvement of Government operations; or who perform special acts or services in the public interest in connection with or related to their official employment. Recognition should be awarded on a timely basis. It should not be awarded as a farewell gesture incident to separation or retirement. The foregoing also applies to military personnel, within the limits

prescribed by section 1124, title 10, United States Code. ^{Four Sentences Added SEE SUP 1}

1-9. Nonappropriated fund instrumentalities. a. AR 230-2 covers the Incentive Awards Program for nonappropriated fund instrumentalities.

b. Suggestions pertaining to appropriated fund activities submitted by nonappropriated fund personnel will not be forwarded to the pertinent Army organization for evaluation until the suggester—

(1) Understands that he or she is not eligible for a cash award if the suggestion is adopted.

(2) Consents to the use of his or her suggestion by execution of a waiver.

c. Cash awards are not payable under this program to appropriated fund employees for benefits accruing to nonappropriated fund organizations and activities.

1-10. Authority to approve cash awards. a. Major commanders may approve individual and group cash awards up to \$10,000, inclusive of awards approved by activity commanders. Nominations for cash awards in excess of \$10,000 must be forwarded to the Executive Secretary, Army Incentive Awards Board, HQDA(DAPE-CPL), WASH DC 20310, for review.

b. Major commanders may redelegate to subordinate commands or activities the authority to approve cash awards in any amount up to \$10,000.

1-11. Responsibilities. a. *Secretary of the Army (SA)*. The SA will submit the following to the Office of Personnel Management (OPM):

(1) Award recommendations of over \$10,000.

(2) Recommendations for Presidential Awards.

(3) New or revised Incentive Awards regulations or plans (30 days before the proposed effective date of the regulation or plan).

(4) The required annual report on the Incentive Awards Program.

b. *Deputy Chief of Staff for Personnel (DCSPER)*. The DCSPER will exercise staff supervision over the Incentive Awards Program Army-

Figure PE 2-26. Page 1-3 of AR 672-20

1 June 1962

wide. The functions, including those portions of the program that apply to military personnel, will be staffed and administered at all levels as a part of the Civilian Personnel Program. Proper coordination will be effected with military personnel elements on military participation in the program.

c. Army Incentive Awards Board. This Board will make recommendations on incentive award nominations requiring SA approval and provide advice on matters relating to policy, regulatory criteria, and design of the more significant awards.

d. Major Army commanders. Major Army commanders will—

(1) Exercise staff supervision over Incentive Awards Programs within their command, including program planning and evaluation.

(2) Issue supplemental instructions for command-wide suggestion campaigns or competitions, when conducted.

(3) Establish supplemental recognition devices adapted to MACOM organizations.

(4) Approve or recommend approval of awards as prescribed in this regulation.

(5) Establish Incentive Awards committees, as needed, to—

(a) Consider those award recommendations requiring the approval of the major commander.

(b) Establish proper command goals consistent with departmental program objectives.

(c) Evaluate the total command Incentive Awards Program and develop feedback to subordinate activities.

(d) Assist subordinate activities in planning Incentive Awards Program activities.

(e) Recommend aspects of the program for special emphasis.

e. Activity commanders. These commanders will administer and promote the Incentive Awards Program. Commanders will take action or direct action to insure that—

(1) Supervisors are provided guidance and staff assistance in—

(a) Encouraging participation in the program.

(b) Initiating appropriate recognition actions for employee achievements.

(2) Publicity is given to the entire program.

(3) Information on the program is brought to the attention of all personnel.

(4) Program requirements established by HQDA and major Army commanders are accomplished; followup actions are taken in support of operating goals.

(5) ~~SUB PARAGRAPH ADDED~~ ^{SEE SUR 1}
f. Civilian personnel officers. These officers at all organizational levels will—

(1) Provide positive program leadership and sufficient numbers of qualified staff to implement the Incentive Awards Program, including those portions that apply to military personnel.

(2) Provide training and orientation of all employees on how they may earn awards.

(3) Provide guidance and assistance to supervisors, managers, and Incentive Awards committees in carrying out their responsibilities under this program.

(4) Maintain required records and submit required reports.

(5) ~~SUB PARAGRAPH ADDED~~ ^{SEE SUR 1}
g. Information officers. These officers at all levels will aid in publicizing and promoting the activities in support of the Incentive Awards Program.

h. Supervisors. Supervisors at all levels will—

(1) Initiate recommendations for appropriate awards for achievements or special acts or services.

(2) Encourage personnel to develop suggestions.

(3) Take prompt actions on suggestions submitted for evaluation.

i. Commanders in foreign areas. These commanders will develop and implement an Incentive Awards Program for indirect-hire foreign national employees. The program may include similar requirements prescribed by this regulation.

1-12. Organization of Incentive Awards committees. *a. General.*

(1) One Incentive Awards Committee will normally be established at each installation that has

Figure PE 2-27. Page 1-4 of AR 672-20

an operating Civilian Personnel Office (CPO). This committee may also service all activities administered by the CPO despite command jurisdiction. These activities include military personnel, elements, units, or organizations based on the activity.

(2) If, because of size or distance, the use of one committee is not the most effective arrangement, two or more awards committees, particularly for large tenant activities, may be established. The CPO will have the same relationship to separate committees for serviced activities as to the installation committee. Commanders of serviced activities will approve awards for personnel under this jurisdiction when approval of the local commander is required. Action required above the activity level will be channeled through serviced command channels.

b. Membership.

(1) The commander will appoint at least five voting members to the committee. Any person who is eligible to take part in the program may be considered for membership.

(2) Committee members should be persons who have knowledge of the activity and its mission, are objective, demonstrate good judgment, and enjoy the confidence of the work force at large.

(3) Committees should include key persons from the major elements of the activity. Normally, they will include a representative from the Office of the Comptroller and the CPO.

(4) In organizations in which the work is mostly technical or scientific in nature, at least one committee member should have the pertinent background.

(5) Commanders will insure that females and members of minority groups are included in the membership of Incentive Awards committees at all command and activity levels.

(6) A nonvoting executive secretary will be assigned to perform necessary administrative duties.

(7) There may be substantial activity by military personnel in the areas of suggestions, inventions, or scientific achievements. If so, the

(8) SUBPARAGRAPH ADDED

SEE SUPPL 1

organizational element concerned with military personnel administration should be represented.

c. Use of alternate members. An ad hoc committee may be convened or alternate committee members may be designated to consider awards being recommended for employees who—

(1) Are members of the Incentive Awards Committee.

(2) Supervise or who are supervised by committee members.

(3) Are related to committee members.

1-13. Functions of the Incentive Awards committees. Incentive Awards committees will perform the following functions:

a. Consider and present recommendations to the commander concerning—

(1) Nominations for cash and honorary awards that exceed the approval authority delegated to subordinate officials.

(2) Nominations that are competitive, and involve the evaluation of accomplishments of several individuals or groups.

(3) Difficult, complex, or controversial cases. Such cases might arise as the result of an employee's request for reconsideration of a prior action.

b. Assist the civilian personnel officer to—

(1) Plan Incentive Awards Program activities.

(2) Determine aspects of the program to be given special emphasis.

(3) Implement new program features.

(4) Improve local techniques.

c. Evaluate the effectiveness of the program in organizational units, including—

(1) Analysis of results and trends.

(2) Appraisal of employee, supervisor, and management reactions.

d. Conduct periodic postaudit reviews of selected adopted suggestions to determine whether anticipated savings are later realized. (These audits may be conducted at the request of the local Incentive Awards committees by internal review or other regularly constituted independent staffs

Figure PE 2-28. Page 1-5 of AR 672-20

TM 5-2805-254-13

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

*Change 1
Posted
30 JUN 86
R4B*

OPERATOR, ORGANIZATIONAL, AND
DIRECT SUPPORT MAINTENANCE MANUAL
INCLUDING REPAIR PARTS AND
SPECIAL TOOL LISTS

OUTBOARD MOTOR, GASOLINE, 25
HORSEPOWER (CHRYSLER OUTBOARD
CORPORATION MODEL G35691)
FSN 2805-926-0894

HEADQUARTERS, DEPARTMENT OF THE ARMY
MAY 1967

Figure PE 2-29. Cover of TM 5-2805-254-13

CHAPTER 1

INTRODUCTION

Section I. GENERAL

*Superseded
C1*

1. Scope

a. These instructions are published for the use of the personnel to whom the Chrysler 25 horsepower outboard motor is issued. Chapters 1 through 4 provide information on the operation, preventive maintenance services, and organizational maintenance of the equipment, accessories, components, and attachments. Chapters 5 and 6 provide information for direct support maintenance.

b. Appendix I contains a list of publications applicable to this manual. Appendix II contains the maintenance allocation chart. Appendix III contains the list of basic issue items authorized the operator of this equipment and the list of maintenance and operating supplies required for initial operation. The organizational and direct support maintenance repair parts and special tools are listed in appendix IV.

~~c. The direct reporting by the individual user, of errors, omissions, and recommendations for improving this manual is authorized and encouraged. DA Form 2028 (Recommended Changes to DA Publications) will be used for reporting these improvements. This form will be completed by the individual using the manual and forwarded direct to the Commanding General, U. S. Army Mobility Equipment Command, ATTN: AMSME-MPD, 4300 Goodfellow Blvd., St. Louis, Mo., 60190.~~

d. Report all equipment improvement recommendations as prescribed by TM 38-750.

2. Record and Report Forms

a. DA Form 2258 (Depreservation Guide for Vehicles and Equipment).

b. For other record and report forms applicable to operator, crew and organizational maintenance, refer to TM 38-750.

Note. Applicable forms shall be kept in a canvas bag mounted in the equipment carrying case.

Section II. DESCRIPTION AND DATA

3. Description

The 25 horsepower, manual start, outboard motor (fig. 1 and 2) has a 35.9 cubic inch displacement and is capable of operation in forward, neutral and reverse. This outboard engine is water cooled by a water pump which acts as a displacement pump at low speeds and as a centrifugal pump at high speeds. Fuel is supplied to the engine from an auxiliary fuel tank with a capacity of six U.S. gallons.

4. Identification and Tabulated Data

a. *Identification.* The 25 horsepower, manual start, outboard motor has one major identification plate. The information contained on this plate is listed below:

tification plate. The information contained on this plate is listed below:

Manufacturer Chrysler Outboard Corporation
Model number G 35691
Brake horsepower 25
Serial number 66001 through 66774

b. Tabulated Data.

(1) Engine.

Manufacturer Chrysler Outboard Corporation
Type Manual Start
Model G 35691
Bore 3 inches
Stroke 2.540 inches
Fuel 1/8 pt. oil to 1 U.S. gallon of gasoline
Piston displacement 35.9 cubic inches

Figure PE 2-30. Page 3 of TM 5-2805-254-13

CHAPTER 2

INSTALLATION AND OPERATING INSTRUCTIONS

Section 1. SERVICE UPON RECEIPT OF EQUIPMENT

6. Inspecting and Servicing Equipment

Inspect the propeller for missing, bent, or cracked blades. Move the steering handle from the vertical to the horizontal operating position, check for relative ease of movement. Rotate the control grip on the steering handle, ascertain that the pointer of the grip does not rotate past the clockwise and counterclockwise indicated operating positions.

7. Installation Instructions

a. Install motor (or motors) at center of the transom of boat making certain that the clamp screws are drawn up tightly to secure motor firmly. To prevent the motor from tilting sideways during severe turns a notch is provided in the stern bracket plate to accommodate a bolt through the transom and plate, which will effectively prevent the motor from coming off the transom, figure 5.

b. Connect the fuel tank to the engine by engaging the fuel line coupling with the bushing on the support plate. Pull back the lock ring and push the coupling onto the bushing. Release the lock ring. It should snap back into place. Check coupling to make sure that it is secure.

c. Tilt adjustment can be made only after performance of boat is tested in a trial run. Start motor and operate at full speed for this

test. Should boat not plane properly (bow rides high out of water) then the motor leg is tilted too far from the stern. Should boat seem to "dig-in" or plow through water in test run then the motor leg is too close to stern. This is corrected by tilting leg of motor outward from stern and locking it at greater angle from stern. The weight of load and distribution of weight in boat will necessitate changes in tilt-lock positions. For maximum performance motor leg should be at right angle to surface of water at full throttle.

d. The motor is equipped with a reverse lock to prevent it from tilting out of the water when operating in reverse and also to release the engine when an underwater object is struck when operating in forward gear. The impact load triggers the release system and allows the engine to tip up and pass over the object (fig. 6). After passing over the object, the engine may not lock back in the running position, therefore, manually return the engine to the locked position.

e. For larger boats and heavier loads two motors are advantageous. In this case the motors should be properly spaced on boat transom. For best performance both motors should be throttled to operate at approximately same speed to prevent boat "sluing" to one side or other (result of uneven propeller thrust when underway).

c. After the one hour break-in period has been completed, the engine may be operated at any speed desired. However, during the first ten hours of operation, it is imperative that the gasoline to oil ratio of one part heavy duty outboard motor oil (SAE 30) to twenty-four parts of gasoline as described above be used. After the first ten hours of operation have been completed, use the gasoline to oil ratio as described under "Fuel Mixture."

12. Fuel Mixture

Recommended fuel mixture after the first ten hours of operation have been completed is **ONE PART HEAVY DUTY OUTBOARD MOTOR OIL (SAE 30) TO FIFTY PARTS OF MARINE WHITE OR REGULAR GRADE (APPROXIMATELY 85 OCTANE) GASOLINE BE USED.** For easy measurement mix **ONE PINT OF OIL WITH SIX GALLONS OF GASOLINE.** **THIS MIXTURE MUST NOT BE USED UNTIL AFTER THE FIRST TEN HOURS OF OPERATION HAVE BEEN COMPLETED.**

Note. When the engine is used in **HEAVY DUTY** applications, it is imperative that a gasoline to oil ratio of one part heavy duty outboard motor oil (SAE 30) to twenty-four parts of gasoline be used.

12. INSTRUCTIONS PRIOR TO OPERATING MOTOR

13. Starting Procedure *ADDED BY C1*

- a. Make sure that the fuel tank has a sufficient amount of properly mixed fuel and that the vent screw located on the fuel tank filler cap or gauge is open.
- b. Squeeze the prime bulb in the fuel line several times to pump fuel from the fuel tank to the engine. Continue to squeeze until prime bulb becomes firm.
- c. Place gear shift lever in "NEUTRAL." Never Start Engine in Gear.
- d. For a cold engine, pull out choke.
- e. Turn twist grip throttle control to the "START" position.
- f. Pull starter rope out slowly until the starter pinion gear engages with the flywheel, then give the rope a smooth, rapid, even pull. The engine should start on the second or third pull. If the engine does not start, recheck steps a. through e. above. However, when starting for the first time, several additional pulls

on the starter may be required in order to initially prime the engine.

14. When Engine Starts

Push choke rod in and allow engine to warm up. If engine "pops" and begins to stall, choke momentarily until it runs smoothly.

15. Gear Shift

The engine is equipped with a gear shift control to provide operation in "Forward," "Neutral" and "Reverse" gear. If the engine is not running, "DO NOT FORCE THE SHIFT LEVER." Never shift with engine speed control set above "Shift" position. The gear shift mechanism will not disengage from forward or reverse gear to neutral at speeds above this setting.

16. Forward

To go forward:

- a. Turn twist grip throttle control so that pointer on the handle is at the "SHIFT" position on grip.
- b. Move shift lever to "FORWARD."
- c. Advance throttle control.

17. Reverse

To go in reverse:

- a. Turn twist grip throttle control so that the pointer on the handle is at the "SHIFT" position of grip.
- b. Move shift lever to "REVERSE."
- c. Advance throttle control.

18. Stopping

Retard twist grip throttle control to "SHIFT" position and shift engine into "NEUTRAL." Turn twist grip throttle control to "STOP" position. *ADDED BY C1*

19. Tilting Engine

- a. To tilt engine out of the water, first make sure it is pointing straight ahead, then grasping the engine by the handle on the back of the engine cover, pull the engine up and forward out of the water until the tilting

Figure PE 2-32. Page 13 of TM 5-2805-254-13

Material	Source codes			Federal stock number	Description	Unit of issue	Quantity authorized	Quantity issued with equipment	Illustration	
	Source	Maintenance	Recoverability						Fig	Item
C/	P	O		5910-668-1154	Condenser	EA	2			
	P	O		2920-618-5588	Spark Plug	EA	2			
	P	O		5315-043-1664	Pin Cotter	EA	1			
	P	O		5315-686-1517	Pin Propeller Shear	EA	1			
	P	O		5310-679-5838	Nut, Propeller	EA	1			
	P	O		2010-670-2242	Propeller	EA	1			
	P	O		5210-423-5585	Gage, Feeler	EA	1			
	P	O		5120-242-3917	Hammer Hand, Machinist ball peen 1 lb	EA	1			
	P	O		5120-223-7396	Pliers, Slip Joint, Straight Nose w/cotter 6"lg.	EA	1			
	P	O		5120-242-3433	Punch, drive pin, 1-1/2"lg. 1/8" dia of point.	EA	1			
	P	O		5120-234-8910	Screw driver, flat tip, plastic handle 5/16" w/5 in blade.	EA	1			
	P	O		5120-240-5328	Wrench open end, adjustable single head, 15/16 in. jaw opening 8 in lg.	EA	1			
	P	O		5120-357-8111	Wrench, spark plug, double head, hex 53/64 and 29/32 in opening, 5 in lg	EA	1			

Figure PE 2-33. Page 103 of TM 5-2805-254-13

TM 5-2805-254-13

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

Change 1	Change 2
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30 JUN 86	1 JUL 86
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OPERATOR, ORGANIZATIONAL, AND
DIRECT SUPPORT MAINTENANCE MANUAL
INCLUDING REPAIR PARTS AND
SPECIAL TOOL LISTS

OUTBOARD MOTOR, GASOLINE, 25
HORSEPOWER (CHRYSLER OUTBOARD
CORPORATION MODEL G35691)
FSN 2805-926-0894

HEADQUARTERS, DEPARTMENT OF THE ARMY
MAY 1967

Figure PE 2-34. Cover of TM 5-2805-254-13

f. Clean, dry, and inspect spark plugs before reinstalling them in motor.

g. Start motor as instructed and run for at least one hour to dry parts thoroughly.

h. APPROPRIATE

24. Prolonged Storage

Before storing engine for prolonged periods, it must be protected against rust and possible damage from freezing temperatures. To prepare engine for storage:

a. If the engine has been operated in salt water, flush out the cooling system with fresh water prior to storage. To do this, run the boat in a body of fresh water or remove the engine from the boat and run in a test tank.

b. Run the engine until it is thoroughly warmed-up.

c. When storing the engine for any period of time, run the engine until it is thoroughly warmed-up. Place gear shift in "Neutral" and allow engine to run at a fast idle. Remove fuel line from fuel tank or engine. Using a rust preventative oil, rapidly inject the oil into the carburetor air intakes for a period of ten to twenty seconds until the engine stops. The

above procedures will coat the interior of the crankcase with a protective coating of oil.

d. When the unit has been removed from the water or test tank, pull the starter several times to expel all water from the cooling system. Any water which is left in the cylinder may freeze and cause extensive damage.

e. Drain all fuel from lines and carburetor.

f. Remove spark plugs. Put an ounce or two of SAE 30 Engine Oil into each spark plug hole. Turn the engine over several times to distribute the oil. This will lubricate the pistons, rings and cylinder wall. Clean and regap spark plugs and install.

g. Drain all grease from lower gear housing. Refill gear housing.

h. Lubricate all moving parts as outlined under "Lubrication."

i. Wipe engine down with a clean rag. Apply an automotive type wax to protect the finish and prevent rust or corrosion.

j. Remove the propeller and apply a coating of grease on propeller shaft. Reinstall propeller.

k. Store engine in a dry, well ventilated area. Store in an upright position.

Figure PE 2-35. Page 15 of TM 5-2805-254-13

APPENDIX III **BASIC ISSUE ITEMS LIST AND MAINTENANCE AND OPERATING** **SUPPLIES**

Section I. INTRODUCTION

1. General

Section II lists the accessories, tools, and publications required for maintenance and operation by the operator, initially issued with, or authorized for the 25 horsepower outboard motor. Section III lists the maintenance and operating supplies required for initial operation.

2. Explanation of Columns Contained in Section II

a. **Source Codes.** The information provided in each column is as follows:

- (1) **Material.** This column is left blank. For identification of agencies assigned supply responsibility for parts, refer to appropriate Federal and Department of Army supply catalogs.

- (2) **Source.** The selection status and source of supply for each part are indicated by the following code symbol:

P—applied to high-mortality repair parts which are stocked in or supplied from the Army supply system, and authorized for use at indicated maintenance levels.

- (3) **Maintenance.** The lowest maintenance level authorized to use, stock, install, or manufacture the part is indicated by the following code symbol:

O—Organizational maintenance

- (4) **Recoverability.** Repair parts and/or tool and equipment items that are re-

coverable are indicated by one of the following code symbols:

- (a) R—applied to repair parts and assemblies which are economically repairable at direct and general support maintenance activities and normally are furnished by supply on an exchange basis.
- (b) T—applied to high-dollar value recoverable repair parts which are subject to special handling and are issued on an exchange basis. Such repair parts normally are repaired or overhauled at depot maintenance facilities.
- (c) U—applied to repair parts specifically selected for salvage by reclamation units because of precious metal content, critical materials, high-dollar value reusable casings, castings, and the like.

Note. When no code is shown in the recoverability column the part is considered expendable.

b. **Federal Stock Number.** When a Federal stock number is available for a part, it will be shown in this column, and will be used for requisitioning purposes.

c. **Description.**

- (1) The item name and a brief description of the part are shown.
- (2) A five-digit Federal supply code for manufacturers and/or other supply services is shown in parentheses followed by the manufacturer's part number. This number shall be used for requisitioning purposes when no

Figure PE 2-36. Page 101 of TM 5-2805-254-13



Figure PE 2-38. Page 115 of TM 5-2805-254-13

Line No.	Source Maint. and Recov. Code		Federal Stock Number	Description	Unit of Measure		Qty. Inv.	Inventory Control		Inventory Control	Inventory Control		Inventory Control	Inventory Control
	Source	Recov.			Unit	Measure		Unit	Measure		Unit	Measure		
0001	X1			PIN, DOCKEL	EA									
0002	X1			PLUG, MELCH	EA									
0003	X1			COVER, CYLINDER DRAIN	EA									
0004	X1			CYLINDER HEAD	EA									
0005	X1			COVER, EXHAUST PORT	EA									
0006	X1			PLATE, EXHAUST PORT	EA									
0007	X1			COVER, EXHAUST WATER JACKET	EA									
0008	X1			SCREW, FILLISTER HEAD, 10-24 X 9/16	EA									
0009	X1			SCREW, FILLISTER HEAD, 10-24 X 1 1/16	EA									
0010	X1			SCREW, FLAT HEAD, 1/4-20 X 1 1/16	EA									
0011	X1			CAPSCREW, HEXAGON HEAD, 3/8-16 X 1 1/2	EA									
0012	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0013	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0014	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0015	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0016	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0017	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0018	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0019	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0020	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0021	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0022	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0023	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0024	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0025	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0026	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0027	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0028	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0029	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0030	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0031	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0032	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0033	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0034	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0035	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0036	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0037	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0038	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0039	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0040	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0041	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0042	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0043	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0044	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0045	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0046	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0047	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0048	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0049	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0050	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0051	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0052	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0053	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0054	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0055	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0056	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0057	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0058	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0059	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0060	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0061	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0062	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0063	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0064	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									
0065	X1			SCREW, HEXAGON HEAD, 1/4-20 X 1 1/8	EA									

Figure PE 2-39. Page 119 of TM 5-2805-254-13

LINE NO.	SOURCE, MAINT AND ACQ CODE	FEDERAL STOCK NUMBER	DESCRIPTION	MANUFACTURER'S		UNIT OF ISSUE	QTY INC IN PKG	QTY UNIT	WEIGHT OF			ILLUSTRATION
				CODE	PART NUMBER				141	142	143	
2990-618-314			SPRING, STARTER REVING		91318 901970	CA		1				
			GUIDE POST, STARTER SPRING		91318 901110	CA		1				
			RETAINER, STARTER REVING SPRING		91318 901110	CA		1				
			ROPE, STARTER		91318 901110	CA		1				
			EXTENSION, STARTER SPRING RETAINER		91318 901110	CA		1				
			GUIDE, STARTER ROPE		91318 901110	CA		1				
			HANDLE GUIDE, STARTER ROPE		91318 901110	CA		1				
			PAL NUT 1/2-18		91318 901110	CA		1				
			SCREW, FILLISTER HEAD 1/4-20 x 3/8		91318 901110	CA		1				
			WASHER, SPRING BOWD		91318 901110	CA		1				
			BRACKET, STARTER MOUNTING		91318 901110	CA		1				
			PIN, STARTER PINION		91318 901110	CA		1				
			HANDLE, STARTER ROPE		91318 901110	CA		1				
			PLUG, STARTER ROPE HANDLE		91318 901110	CA		1				
			CAPSCREW, FILLISTER HEAD 1/4-20 x 7/8		91318 901110	CA		1				
			SCREW, FILLISTER HEAD 5/16 - 10 x 1 1/2		91318 901110	CA		1				
			SPEAKER, STARTER BRACKET		91318 901110	CA		1				
			SCREW, FILLISTER HEAD 5/16-18 x 1 1/2		91318 901110	CA		1				
			WASHER, PLAIN		91318 901110	CA		1				
			LOOKMASHET, EXTERNAL TOOTH		91318 901110	CA		1				
			GROUP 03 - FUEL SYSTEM									
			0301 - CARBURATOR									
			CARBURATOR, ASSEMBLY		91318 901110	CA		1				
			ADAPTER, CARBURATOR		91318 901110	CA		1				
			GASKET, CARBURATOR MOUNTING		91318 901110	CA		1				
			DEFLECTOR PLATE		91318 901110	CA		1				
			STUD, CARBURATOR		91318 901110	CA		1				
			PLUG SCREW, BODY CHANNEL		91318 901110	CA		1				
			SCREW AND LOCKWASHER		91318 901110	CA		1				
			CHOK SHUTTER AND LEVER		91318 901110	CA		1				
			CHOK SHUTTER		91318 901110	CA		1				
			SCREW AND WASHER, CHOK SHUTTER		91318 901110	CA		1				
			CHOK RELIEF VALVE		91318 901110	CA		1				
			FUEL BOA		91318 901110	CA		1				
			DRAIN SCREW, FUEL BOA		91318 901110	CA		1				
			PLUG SCREW, FUEL BOA		91318 901110	CA		1				
			THROTTLE SHAFT AND LEVER		91318 901110	CA		1				
			SCREW, FLAT HEAD 1/4-20 x 5/8		91318 901110	CA		1				
			GASKET, CARBURATOR ADAPTER		91318 901110	CA		1				
			CONNECTOR, GAS LINE		91318 901110	CA		1				
			SPRING, CHOK SHUT RETAIN		91318 901110	CA		1				
			SPRING, CHOK RELIEF VALVE		91318 901110	CA		1				

Figure PE 2-40. Page 121 of TM 5-2805-254-13

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)	(61)	(62)	(63)	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)	(73)	(74)	(75)	(76)	(77)	(78)	(79)	(80)	(81)	(82)	(83)	(84)	(85)	(86)	(87)	(88)	(89)	(90)	(91)	(92)	(93)	(94)	(95)	(96)	(97)	(98)	(99)	(100)	(101)	(102)	(103)	(104)	(105)	(106)	(107)	(108)	(109)	(110)	(111)	(112)	(113)	(114)	(115)	(116)	(117)	(118)	(119)	(120)	(121)	(122)	(123)	(124)	(125)	(126)	(127)	(128)	(129)	(130)	(131)	(132)	(133)	(134)	(135)	(136)	(137)	(138)	(139)	(140)	(141)	(142)	(143)	(144)	(145)	(146)	(147)	(148)	(149)	(150)	(151)	(152)	(153)	(154)	(155)	(156)	(157)	(158)	(159)	(160)	(161)	(162)	(163)	(164)	(165)	(166)	(167)	(168)	(169)	(170)	(171)	(172)	(173)	(174)	(175)	(176)	(177)	(178)	(179)	(180)	(181)	(182)	(183)	(184)	(185)	(186)	(187)	(188)	(189)	(190)	(191)	(192)	(193)	(194)	(195)	(196)	(197)	(198)	(199)	(200)	(201)	(202)	(203)	(204)	(205)	(206)	(207)	(208)	(209)	(210)	(211)	(212)	(213)	(214)	(215)	(216)	(217)	(218)	(219)	(220)	(221)	(222)	(223)	(224)	(225)	(226)	(227)	(228)	(229)	(230)	(231)	(232)	(233)	(234)	(235)	(236)	(237)	(238)	(239)	(240)	(241)	(242)	(243)	(244)	(245)	(246)	(247)	(248)	(249)	(250)	(251)	(252)	(253)	(254)	(255)	(256)	(257)	(258)	(259)	(260)	(261)	(262)	(263)	(264)	(265)	(266)	(267)	(268)	(269)	(270)	(271)	(272)	(273)	(274)	(275)	(276)	(277)	(278)	(279)	(280)	(281)	(282)	(283)	(284)	(285)	(286)	(287)	(288)	(289)	(290)	(291)	(292)	(293)	(294)	(295)	(296)	(297)	(298)	(299)	(300)	(301)	(302)	(303)	(304)	(305)	(306)	(307)	(308)	(309)	(310)	(311)	(312)	(313)	(314)	(315)	(316)	(317)	(318)	(319)	(320)	(321)	(322)	(323)	(324)	(325)	(326)	(327)	(328)	(329)	(330)	(331)	(332)	(333)	(334)	(335)	(336)	(337)	(338)	(339)	(340)	(341)	(342)	(343)	(344)	(345)	(346)	(347)	(348)	(349)	(350)	(351)	(352)	(353)	(354)	(355)	(356)	(357)	(358)	(359)	(360)	(361)	(362)	(363)	(364)	(365)	(366)	(367)	(368)	(369)	(370)	(371)	(372)	(373)	(374)	(375)	(376)	(377)	(378)	(379)	(380)	(381)	(382)	(383)	(384)	(385)	(386)	(387)	(388)	(389)	(390)	(391)	(392)	(393)	(394)	(395)	(396)	(397)	(398)	(399)	(400)	(401)	(402)	(403)	(404)	(405)	(406)	(407)	(408)	(409)	(410)	(411)	(412)	(413)	(414)	(415)	(416)	(417)	(418)	(419)	(420)	(421)	(422)	(423)	(424)	(425)	(426)	(427)	(428)	(429)	(430)	(431)	(432)	(433)	(434)	(435)	(436)	(437)	(438)	(439)	(440)	(441)	(442)	(443)	(444)	(445)	(446)	(447)	(448)	(449)	(450)	(451)	(452)	(453)	(454)	(455)	(456)	(457)	(458)	(459)	(460)	(461)	(462)	(463)	(464)	(465)	(466)	(467)	(468)	(469)	(470)	(471)	(472)	(473)	(474)	(475)	(476)	(477)	(478)	(479)	(480)	(481)	(482)	(483)	(484)	(485)	(486)	(487)	(488)	(489)	(490)	(491)	(492)	(493)	(494)	(495)	(496)	(497)	(498)	(499)	(500)	(501)	(502)	(503)	(504)	(505)	(506)	(507)	(508)	(509)	(510)	(511)	(512)	(513)	(514)	(515)	(516)	(517)	(518)	(519)	(520)	(521)	(522)	(523)	(524)	(525)	(526)	(527)	(528)	(529)	(530)	(531)	(532)	(533)	(534)	(535)	(536)	(537)	(538)	(539)	(540)	(541)	(542)	(543)	(544)	(545)	(546)	(547)	(548)	(549)	(550)	(551)	(552)	(553)	(554)	(555)	(556)	(557)	(558)	(559)	(560)	(561)	(562)	(563)	(564)	(565)	(566)	(567)	(568)	(569)	(570)	(571)	(572)	(573)	(574)	(575)	(576)	(577)	(578)	(579)	(580)	(581)	(582)	(583)	(584)	(585)	(586)	(587)	(588)	(589)	(590)	(591)	(592)	(593)	(594)	(595)	(596)	(597)	(598)	(599)	(600)	(601)	(602)	(603)	(604)	(605)	(606)	(607)	(608)	(609)	(610)	(611)	(612)	(613)	(614)	(615)	(616)	(617)	(618)	(619)	(620)	(621)	(622)	(623)	(624)	(625)	(626)	(627)	(628)	(629)	(630)	(631)	(632)	(633)	(634)	(635)	(636)	(637)	(638)	(639)	(640)	(641)	(642)	(643)	(644)	(645)	(646)	(647)	(648)	(649)	(650)	(651)	(652)	(653)	(654)	(655)	(656)	(657)	(658)	(659)	(660)	(661)	(662)	(663)	(664)	(665)	(666)	(667)	(668)	(669)	(670)	(671)	(672)	(673)	(674)	(675)	(676)	(677)	(678)	(679)	(680)	(681)	(682)	(683)	(684)	(685)	(686)	(687)	(688)	(689)	(690)	(691)	(692)	(693)	(694)	(695)	(696)	(697)	(698)	(699)	(700)	(701)	(702)	(703)	(704)	(705)	(706)	(707)	(708)	(709)	(710)	(711)	(712)	(713)	(714)	(715)	(716)	(717)	(718)	(719)	(720)	(721)	(722)	(723)	(724)	(725)	(726)	(727)	(728)	(729)	(730)	(731)	(732)	(733)	(734)	(735)	(736)	(737)	(738)	(739)	(740)	(741)	(742)	(743)	(744)	(745)	(746)	(747)	(748)	(749)	(750)	(751)	(752)	(753)	(754)	(755)	(756)	(757)	(758)	(759)	(760)	(761)	(762)	(763)	(764)	(765)	(766)	(767)	(768)	(769)	(770)	(771)	(772)	(773)	(774)	(775)	(776)	(777)	(778)	(779)	(780)	(781)	(782)	(783)	(784)	(785)	(786)	(787)	(788)	(789)	(790)	(791)	(792)	(793)	(794)	(795)	(796)	(797)	(798)	(799)	(800)	(801)	(802)	(803)	(804)	(805)	(806)	(807)	(808)	(809)	(810)	(811)	(812)	(813)	(814)	(815)	(816)	(817)	(818)	(819)	(820)	(821)	(822)	(823)	(824)	(825)	(826)	(827)	(828)	(829)	(830)	(831)	(832)	(833)	(834)	(835)	(836)	(837)	(838)	(839)	(840)	(841)	(842)	(843)	(844)	(845)	(846)	(847)	(848)	(849)	(850)	(851)	(852)	(853)	(854)	(855)	(856)	(857)	(858)	(859)	(860)	(861)	(862)	(863)	(864)	(865)	(866)	(867)	(868)	(869)	(870)	(871)	(872)	(873)	(874)	(875)	(876)	(877)	(878)	(879)	(880)	(881)	(882)	(883)	(884)	(885)	(886)	(887)	(888)	(889)	(890)	(891)	(892)	(893)	(894)	(895)	(896)	(897)	(898)	(899)	(900)	(901)	(902)	(903)	(904)	(905)	(906)	(907)	(908)	(909)	(910)	(911)	(912)	(913)	(914)	(915)	(916)	(917)	(918)	(919)	(920)	(921)	(922)	(923)	(924)	(925)	(926)	(927)	(928)	(929)	(930)	(931)	(932)	(933)	(934)	(935)	(936)	(937)	(938)	(939)	(940)	(941)	(942)	(943)	(944)	(945)	(946)	(947)	(948)	(949)	(950)	(951)	(952)	(953)	(954)	(955)	(956)	(957)	(958)	(959)	(960)	(961)	(962)	(963)	(964)	(965)	(966)	(967)	(968)	(969)	(970)	(971)	(972)	(973)	(974)	(975)	(976)	(977)	(978)	(979)	(980)	(981)	(982)	(983)	(984)	(985)	(986)	(987)	(988)	(989)	(990)	(991)	(992)	(993)	(994)	(995)	(996)	(997)	(998)	(999)	(1000)
04354	04356	04357	04358	04359	04360	04361	04362	04363	04364	04365	04366	04367	04368	04369	04370	04371	04372	04373	04374	04375	04376	04377	04378	04379	04380	04381	04382	04383	04384	04385	04386	04387	04388	04389	04390	04391	04392	04393	04394	04395	04396	04397	04398	04399	04400	04401	04402	04403	04404	04405	04406	04407	04408	04409	04410	04411	04412	04413	04414	04415	04416	04417	04418	04419	04420	04421	04422	04423	04424	04425	04426	04427	04428	04429	04430	04431	04432	04433	04434	04435	04436	04437	04438	04439	04440	04441	04442	04443	04444	04445	04446	04447	04448	04449	04450	04451	04452	04453	04454	04455	04456	04457	04458	04459	04460	04461	04462	04463	04464	04465	04466	04467	04468	04469	04470	04471	04472	04473	04474	04475	04476	04477	04478	04479	04480	04481	04482	04483	04484	04485	04486	04487	04488	04489	04490	04491	04492	04493	04494	04495	04496	04497	04498	04499	04500	04501	04502	04503	04504	04505	04506	04507	04508	04509	04510	04511	04512	04513	04514	04515	04516	04517	04518	04519	04520	04521	04522	04523	04524	04525	04526	04527	04528	04529	04530	04531	04532	04533	04534	04535	04536	04537	04538	04539	04540	04541	04542	04543	04544	04545	04546	04547	04548	04549	04550	04551	04552	04553	04554	04555	04556	04557	04558	04559	04560	04561	04562	04563	04564	04565	04566	04567	04568	04569	04570	04571	04572	04573	04574	04575	04576	04577	04578	04579	04580	04581	04582	04583	04584	04585	04586	04587	04588	04589	04590	04591	04592	04593	04594	04595	04596	04597	04598	04599	04600	04601	04602	04603	04604	04605	04606	04607	04608	04609	04610	04611	04612	04613	04614	04615	04616	04617	04618	04619	04620	04621	04622	04623	04624	04625	04626	04627	04628	04629	04630	04631	04632	04633	04634	04635	04636	04637	04638	04639	04640	04641	04642	04643	04644	04645	04646	04647	04648	04649	04650	04651	04652	04653	04654	04655	04656	04657	04658	04659	04660	04661	04662	04663	04664	04665	04666	04667	04668	04669	04670	04671	04672	04673	04674	04675	04676	04677	04678	04679	04680	04681	04682	04683	04684	04685	04686	04687	04688	04689	04690	04691	04692	04693	04694	04695	04696	04697	04698	04699	04700	04701	04702	04703	04704	04705	04706	04707	04708	04709	04710	04711	04712	04713	04714	04715	04716	04717	04718	04719	04720	04721	04722	04723	04724	04725	04726	04727	04728	04729	04730	04731	04732	04733	04734	04735	04736	04737	04738	04739	04740	04741	04742	04743	04744	04745	04746	04747	04748	04749	04750	04751	04752	04753	04754	04755	04756	04757	04758	04759	04760	04761	04762	04763	04764	04765	04766	04767	04768	04769	04770	04771	04772	04773	04774	04775	04776	04777	04778	04779	04780	04781	04782	04783	04784	04785	04786	04787	04788	04789	04790	04791	04792	04793	04794	04795	04796	04797	04798	04799	04800	04801	04802	0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

Figure PE 2-41. Page 129 of TM 5-2805-254-13

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